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THE PREVENTION OF THE DEVELOPMENT OF RICKETS IN RATS BY SUNLIGHT

STUDIES ON EXPERIMENTAL RICKETS: XIV *

G. F. POWERS, M.D., AND E. A. PARK, M.D.,
Assistant Professor and Professor in Pediatrics, Respectively, Yale University School of Medicine
NEW HAVEN, CONN.

P. G. SHIPLEY, M.D.
Instructor in Pediatrics, Johns Hopkins University Medical Department
AND
E. V. McCOLLUM, PH.D., AND NINA SIMMONDS, S.B.
Professor of Biochemistry and Associate in Biochemistry, Respectively, Department of Chemical Hygiene, Johns Hopkins University School of Hygiene and Public Health
BALTIMORE

HISTORICAL: LIGHT IN THE CURE OF RICKETS AND TETANY

In 1904, Buchholz [1] published a paper on the treatment by means of light of rickets and certain other diseases occurring in children. He used the "Glühlicht" (Kellogg) which, he stated, was poor in chemically active rays. The heat rays were in part absorbed by a special kind of glass filter interposed between lamp and patient. He considered that the action of the lamp depended in part on the heat rays, in part on the light rays. Whatever the exact composition of the light may have been, Buchholz reported favorable results from its use in rickets. Altogether he treated with it sixteen rachitic children. They all showed general improvement. They ate and slept better; they became more active and began to walk. Sweating of the head decreased, and their backs became straight. The work of Buchholz seems to have commanded little, if any, attention.

The fact that the development of the healing process in the bones of rachitic children could be traced by means of the roentgen ray has been understood in Germany for a number of years. In 1910, in an atlas devoted to rickets Fraenkel and Lorey [2] published roentgenograms of the bones of rachitic children to illustrate all stages of healing and of healing and relapse. Under these circumstances it is remarkable that the roentgen ray was not earlier employed to detect the therapeutic effects of drugs and other forms of treatment in diseases affecting the skeleton. Phemister,[3] in this country, applied the method to the study of the effects of phosphorus on growth and ossification in health and disease (1918), and to its use Huldschinsky owed the success of his efforts in demonstrating that the light emitted by the mercury vapor quartz lamp exerts a curative action in rickets.

In a preliminary communication, which appeared in June, 1919, Huldschinsky [4] reported that the ultraviolet ray exerted a curative action in rickets. His material consisted of four children, aged between 2¼ and 4¼ years, who had advanced rickets. Three rachitic children, untreated with the quartz lamp, served as control subjects. After four weeks of treatment, calcium deposition at the ends of the long bones of the extremities could be demonstrated in roentgenograms, and at the end of two months the healing process seemed to be almost complete. Huldschinsky complicated the interpretation of the results of the experiments by the daily administration of 1 gm. of calcium phosphate. Since, however, the rachitic children who were not irradiated failed to show any evidence of calcium deposition in the skeleton as the result of the calcium phosphate administration, Huldschinsky concluded that the beneficial effects were to be attributed entirely to the ultraviolet ray.

In December, 1918, Winkler [5] reported the favorable effects of treatment of rickets with the roentgen ray. He used a medium soft tube at a focal distance of about 20 cm. The exposure did not exceed ninety seconds, and was repeated every other day. The treatment was at first directed against the craniotabetic lesions of the head. After five or six treatments, Winkler observed that the sweating of the head came to an end and sleep was improved. As the treatment progressed, laryngospasm and the "tendency to convulsions" disappeared. The craniotabes vanished. The teeth erupted. Bulgings of the costochondral junctions disappeared. Calcium deposition occurred at the ends of the radius and ulna, as was plainly evident in the roentgenograms. Winkler's work seems to have been done without knowledge of the work of Huldschinsky.

In April, 1920, Putzig [6] corroborated the findings of Huldschinsky. He does not state the number of

* Read before the American Child Hygiene Association at the Twelfth Annual Meeting at New Haven, Conn., Nov. 2-5, 1921.

1. Buchholz, E.: Ueber Lichtbehandlung der Rachitis und anderer Kinderkrankheiten, Verhandlungen der Gesellschaft für Kinderheilkunde in der Abteilung für Kinderheilkunde der 76 Versammlung der Gesellschaft Deutscher Naturforscher und Aerzte in Breslau, **21**: 116, 1904.

2. Fraenkel, E., and Lorey, A.: Archiv und Atlas der normalen und pathologischen Anatomie in typischen Röntgenbild, Hamburg, Lucas Gräfe and Sillem, 1910.

3. Phemister, D. B.: The Effect of Phosphorus on Growing, Normal and Diseased Bones, J. A. M. A. **70**: 1737 (June 8) 1918.

4. Huldschinsky, K.: Heilung von Rachitis durch künstliche Höhensonne, Deutsch. med. Wchnschr. **45**: 712, 1919.

5. Winkler, F.: Ueber die Strahlungstherapie der Rachitis, Monatschr. f. Kinderh. **18**: 520 (Dec.) 1918.

6. Putzig, H.: Die Behandlung der Rachitis mit künstlicher Höhensonne, Therap. Halbmonatschr. **34**: 234 (April) 1920.

rachitic children treated by means of the quartz lamp, but observes that he effected cures through its use in premature infants suffering from rickets. In the same month, Huldschinsky's findings received further confirmation from Karger.[7]

In May, 1920, Huldschinsky [8] reported the results of more extensive investigations of the effects of the ultraviolet ray in rickets. His material had now been increased to thirty children. He administered calcium phosphate or calcium chlorid to twenty of the children, but to ten did not give calcium in any form. In some of the thirty children treated the rickets was recent, in others of long standing; the ages of the children varied between 1½ and 6½ years. In all, healing was accomplished in from twenty-two to twenty-six treatments covering a period of two months. As the result of his further investigations, Huldschinsky concluded that there could be no longer any doubt that the ultraviolet ray exerted a specific therapeutic influence in rickets.

In July, 1920, Riedel [9] further confirmed Huldschinsky's findings in a series of 100 rachitic children.

In September, 1920, Sachs [10] reported that treatment with the ultraviolet ray cured latent tetany. His evidence consisted in the disappearance under treatment of the mechanical and electrical excitability of the peripheral nerves. His conclusions were based on the result of treatment in seven cases. No medication was given.

In the same month Huldschinsky [11] reported cures of manifest tetany by means of irradiation with the quartz lamp. No medication was given. After the first application of the rays, the manifest symptoms disappeared. In no case did the laryngeal stridor or the convulsions recur. The latent symptoms, i. e., the Chvostek and the characteristic electrical reactions, disappeared within four days in one case, but lingered in the other cases for from two to four weeks. By this time the number of rachitic children cured by Huldschinsky through the use of the quartz lamp had risen to 105.

Fig. 1.—Photomicrograph of a rachitic bone from a control rat which was fed Diet 3143 and not exposed to sunlight. The epiphyseal cartilage is uncalcified and a broad intermediate zone or metaphysis has formed between it and the shaft. There is a pathologic overproduction of osteoid tissue in the shaft.

In August, 1921, Sachs [12] reported the cure of eight children having severe tetany, by means of the ultraviolet ray.

In May, 1921, Erlacher [13] reported the cure of rickets in forty-two cases by means of treatment with the ultraviolet ray. The subjects varied in age from 1 to 7 years, and presented all the symptoms and were in all stages of the disease. The number of treatments necessary to effect a cure varied between forty and sixty. Marked general improvement was noted coincidently with the healing of the rickets.

In June, 1921, Mengert [14] announced the successful use of the quartz lamp as a prophylaxis against rickets. His work, which is not impressive, consisted in the treatment with the quartz lamp of eighteen infants, aged between 1 and 2 months. One infant was 2½ months old. Ten were premature. Some died from intercurrent disease before the prophylactic treatment was complete. No one of the children treated developed rickets as determined by the roentgen ray.

In January, 1921, Hess and Unger [15] reported the cure of rickets in six children by means of the ultraviolet ray. They conceived of the possibility of the curative action of the ultraviolet ray in rickets in 1917 and actually treated with it at that time six children. Unfortunately, however, they failed to discover that the treatment was valuable. They did not use roentgenographic evidence of healing at the ends of the long bones of the extremities, which was objective and measurable. In 1920 they first described these experiments performed in 1917:

> Infants in glass cubicles were not spared more than those in the regular wards. With this question in mind, in the spring of 1917 five children were given daily treatments of violet ray, the mercury vapor quartz lamp being used for this purpose. Their entire bodies were exposed for twenty minutes, so that they soon became brown, as if well tanned by the sun. This therapy, which was carried out with regularity for three months in infants about 1 year of age, did not lead to a definite improvement in the rickets, nor did it benefit their general condition. Violet ray cannot be considered the equivalent of heliotherapy.

But the fact that rickets is exceptional in the arctic region, where there is a lack of sunlight for the greater part of the year, is a strong argument against its predominant influence.

Moist, foggy climates were regarded by Glisson [16] as an etiologic factor in the production of rickets in children.

The true value of sunlight as a therapeutic agent in rickets was set forth by Palm [17] in 1890 as the result of a noteworthy topographic study of the incidence of the disease. We quote the remarkable recommendations for the eradication of rickets from the community which form the conclusion of his article:

7. Karger, P.: Zur Kenntniss der zerebralen Rachitis, Monatschr. f. Kinderh. **18**: 21, 1920.
8. Huldschinsky, K.: Die Behandlung der Rachitis durch Ultravioletttestrahlung, Ztschr. f. Orthop. Chir. **39**: 426 (May) 1920.
9. Riedel, G.: Die Erfolge der Quartzlichtbestrahlung bei Rachitis, München. med. Wchnschr. **67**: 838 (July) 1920.
10. Sachs, F.: Untersuchungen über den Einfluss des Ultravioletten Lichtes auf die latente Säuglingstetanie, Jahrb. f. Kinderh. **93**: 167 (Sept.) 1920.
11. Huldschinsky, K.: Die Beeinflussung der Tetanie durch Ultravioletten Licht, Ztschr. f. Kinderh. **26**: 5 (Sept.) 1920.
12. Sachs, F.: Die Heilung der Säuglingstetanie durch Bestrahlung mit Ultravioletten Licht, München. med. Wchnschr. **68**: 985 (Aug.) 1921.
13. Erlacher, P.: Ueber Heilerfolge bei Rachitis nach Quarzlichtbestrahlung, Wien. klin. Wchnschr. **34**: 241 (May) 1921.
14. Mengert, E.: Ueber vorbeugende Höhensonnenbestrahlung gegen Rachitis, Deutsch. med. Wchnschr. **47**: 675 (June) 1921.
15. Hess, A. F., and Unger, L. J.: The Clinical Rôle of the Fat-Soluble Vitamin: Its Relation to Rickets, J. A. M. A. **74**: 217 (Jan. 24) 1920.
16. Glisson, F.: De rachitide, London, 1650.
17. Palm, T. A.: The Geographical Distribution and Aetiology of Rickets, Practitioner, London **45**: 271 and 321, 1890.

In conclusion, as practical results of this inquiry, I would urge the following:

1. The establishment of means for having systematic and exact records of the sunshine in the heart of our great cities as well as at favorite health resorts. A sunshine recorder at an observatory on some hilltop near a large city is no guide to the amount of sunshine that reaches the streets and alleys of smoky cities. It is important that the sunshine recorder be of the form which indicates the chemical activity of the sun's rays rather than its heat.

2. The removal of rachitic children as early as possible from large towns to a locality where sunshine abounds and the air is dry and bracing.

3. The establishment of a sanatorium for poor rickety children in some such locality, where the severe development of the disease may be averted, and much life and health saved by timely treatment.

4. The systematic use of sun-baths as a preventive and therapeutic measure in rickets and other diseases.

5. That when a mother has once borne a child which has become rachitic, preventive treatment of the disease in her future children should be adopted if possible by change of climate and mode of life in the mother, nothing urged above being inconsistent with the belief that the mother's state of health brought about by the same causes predisposes her offspring to rickets.

6. The education of the public to the appreciation of sunshine as a means of health. Many persons seem to prefer darkness to light in their dwellings out of ignorance, thoughtlessness, or even an economic regard for carpets and curtains. Let people understand that sunlight in the dwelling not only reveals unsuspected dirt, but is Nature's universal disinfectant, as well as a stimulant and tonic. Such knowledge will also stimulate efforts for the abatement of smoke, and for the multiplication of open spaces, especially as playgrounds for the children of the poor.

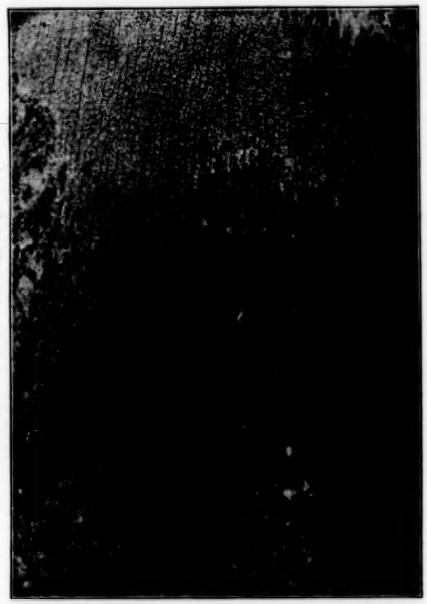

Fig. 2.—Section of a bone from a control animal at the epiphyseodiaphyseal junction, showing severe rachitic lesions. This animal had been fed for two months on Diet 3143. The picture shows the abnormal persistence of the cartilage and its invasion by blood vessels from the shaft and marrow elements. There is a pathologic formation of osteoid tissue in which cartilage cells (indicated by arrow) are embedded.

Experimental evidence for the favorable action of sunlight on the mineral metabolism was furnished by Raczynski [18] in 1912. On account of its importance, we quote Raczynski's brief communication in its entirety:

There are numerous investigations which have had as their object the determination of the etiology of rickets, but there exists none which consists in an experimental inquiry into the action of the sun in that disease.

Daily experience and statistics show that the greatest number of cases of rickets are found in the months following the winter, i. e., in March, April and May.

The statistical records of rachitic breast fed infants aged between 3 and 11 months appearing at the children's outpatient department at Leopol give a curve which begins to ascend in January, rises sharply in the months following, and attains its height in May, to fall rapidly in June.

The attempt is made to explain these generally recognized facts by improper hygienic conditions, such as impure air and damp, ill ventilated lodgings in which the infants of the poor live during the winter. But we often encounter rachitic children in the same months of the year among our patients who live under the most favorable hygienic conditions.

There are again many other facts which lead us to say that it is the sun which plays the principal rôle in the etiology of rickets.

The following experiment lends support to our thesis:

Two puppies born of the same mother in May were reared for six weeks, the first in the sunlight from morning to evening, the second in absolute darkness in a large, well ventilated cage. Both were nourished in the same manner; that is to say, they were both exclusively suckled by their mother. At the end of six weeks the puppies were killed and their bodies were examined from a chemical standpoint.

I have looked for Ca, P, Mg, Cl and Fe, and have estimated them per 100 grams of body weight:

	In the Case of the Dog Reared in Sunlight Gm.	In the Case of the Dog Reared in Darkness Gm.
CaO ...	1.578	0.978
P_2O_5 ...	1.192	0.862
MgO ..	0.054	0.041
Cl	0.162	0.347
Fe	0.017	0.019

The table shows the body of the dog reared in the darkness contained less CaO and P_2O_5 than the body of the dog reared in the sunlight; and that a diminution of CaO and P_2O_5 in the organism is a characteristic evidence of rickets.

It is possible to assume that the lack of action of the sunlight by influencing in so unfavorable a manner the assimilation of CaO in the young organism is one of the causes of rickets. This is in complete accord with clinical experience.

In a recent letter to the *British Medical Journal* in criticism of the conclusions arrived at by Paton, Findlay and Watson,[19] on the etiology of rickets, Neve [20] called attention to the fact that rickets was exceedingly rare in Srinagar (India), where infants live under the worst conditions of hygiene and diet, but where sunlight, to which they are almost constantly exposed, abounds. He stated that the only case of rickets which he had seen there was in an English child. A cure took place when the gloomy house in which the patient

18. Raczynski, J.: Communications sur le rachitisme: I. Recherches experimentales sur le manque d'action du soleil comme cause du rachitisme, Compt. rend. de l'Association internationale de pédiatrie, 1912, p. 308.

19. Paton, D. N.; Findlay, L., and Watson, A.: Observations on the Cause of Rickets, Brit. M. J. 2: 625 (Dec. 7) 1918.

20. Neve, E. F.: The Etiology of Rickets, Brit. M. J. 1: 518, 1919.

lived was exchanged for one which was well lighted by the sun.

The favorable effect of sunlight in rickets as determined by clinical observation has been recently emphasized by Feer.[21] He called attention to the marked benefit which accrued in rickets from exposure to the sun's rays in the Swiss Alps. He made reference to the excellent results which had been obtained in the treatment of rickets with sunlight during the past ten years at the Zurich Sanatorium, and also to the investigation of Neumann[22] in 1909 in regard to the incidence of rickets and tetany in the Swiss Alps. Neumann had pointed out the great rarity of both rickets and tetany in Arosa, 1,740 meters (5,709 feet) above the sea level, and its frequency at Davos, at an altitude of 1,560 meters (4,285 feet) and only four and one-half hours distant. At Arosa the children lived for a large part of the time outdoors; but in Davos they lived largely indoors under the crowded conditions which are found generally in cities.

Huldschinsky made use of sunlight together with the ultraviolet ray in two cases of his series, and Riedel relied on treatment with sunlight in some of his cases, supplementing with the quartz lamp only on sunless days.

Hess and Unger[23] were the first, so far as we are aware, to demonstrate by means of the roentgen ray that sunlight alone possesses the same curative action as the light of the quartz lamp in the rickets of human beings. They state that they exposed five infants with rickets to the direct action of sunlight for periods varying from one-half hour to several hours daily, whenever the sunlight was available. Different parts of the body were in turn subjected to the action of the sun's rays. In one of the cases the patient was exposed to the sunlight only on seven occasions for a total period of twenty-five hours. The general condition of the infants, as well as the diseased condition in the bones, was benefited. Calcification at the cartilage-shaft junctions of the bones of the extremities occurring in the course of the treatment was determined by the roentgen ray.

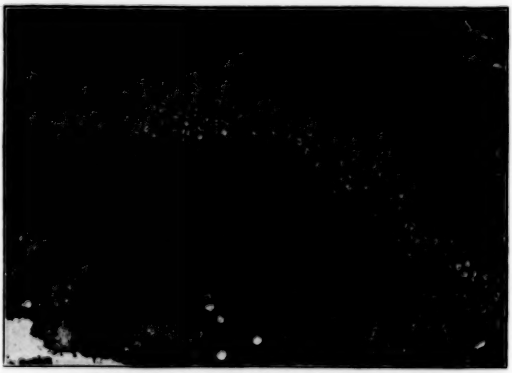

Fig. 3.—Section from a long bone of a rat which had been on the same diet (3143) as the control shown in Figure 1. The cartilage is narrow, regular and well calcified. The marrow is normal, and the bony trabeculae of the shaft, while somewhat fewer than those of a normal bone, are well calcified and show evidences of normal osteoblastic activity. This animal was exposed to sunlight in the manner described in the text.

EXPERIMENTAL: THE PREVENTION OF RICKETS IN THE RAT BY SUNLIGHT

All the investigations which have been made up to the present time in regard to the curative effects of both the ultraviolet ray and sunlight in rickets have been made on human subjects of the disease, and all the evidence has been furnished by means of the roentgenogram. In order to satisfy ourselves concerning the action of light in rickets as well as actually to see the changes produced in the bones, we performed the following experiments:

Eighteen rats about 6 weeks old and weighing between 40 and 50 gm. were placed on Diet 3143 which, as previous experience[24] has shown, produces rickets comparable in every respect to the rickets manifesting itself in human beings. The ration has the following composition: wheat, 33; maize, 33; gelatin, 15; wheat gluten, 15; sodium chlorid, 1; calcium carbonate, 3 per cent. It contains nearly twice the optimal content of calcium, and is decidedly below the optimum in its content of phosphorus and in fat-soluble A. Otherwise, it is well constituted.

Twelve rats placed on this diet were sent to New Haven, there to be exposed to sunlight. The remaining six rats were retained in Baltimore to be kept as control animals under ordinary laboratory conditions in a large, well ventilated room completely screened with windows of ordinary glass. The animals treated with the sunlight were divided into two groups and placed in fairly large wire mesh cages. Each clear day the cages were carried outdoors and placed in the sunlight. At first, the weather being warm, the rats were exposed to the sunlight for two short periods of twenty minutes each. Soon, however, the periods were lengthened to six or even more hours. During the experimental period, which covered between sixty-two and sixty-seven days, the rats were exposed to the sunlight on every day except nine. The total exposure to sunlight varied between 242 and 273 hours. The average daily exposure was four hours.

When first exposed to sunlight, the albinos developed conjunctivitis; the ears of all, in particular the albinos, began to peel; the skin of the tails became sunburned and rough; the hair of some of the albinos acquired a yellowish tint. Long before the experiments were completed, it became evident that the animals treated with sunlight were not developing rickets. Though they did not grow normally, they remained extremely active, climbing and darting about the cages. Toward the end of the experiments they became sexually active; one of the females became pregnant.

21. Feer, E.: Die Einwirkung des Höhenklimas auf das kranke Kind, Schweiz. med. Wchnschr. **51**: 438, 1921.
22. Neumann, H.: Der Säugling im Hochgebirge, Deutsch. med. Wchnschr. **35**: 2167, 1909.
23. Hess, A. F., and Unger, L. J.: The Cure of Infantile Rickets by Sunlight, J. A. M. A. **77**: 39 (July 2) 1921.
24. McCollum, E. V.; Simmonds, Nina; Shipley, P. G., and Park, E. A.: Studies on Experimental Rickets, VIII, The Production of Rickets by Diets Low in Phosphorus and Fat-Soluble A, J. Biol. Chem. **47**: 507, 1921.

The control rats, killed at the expiration of two months, showed all the gross and microscopic evidences of rickets, the characteristic deformities of the thorax, enlargement and distortion of the costochondral junctions, fractures of the shafts, and enlargements at the wrists, ankles and knees, and the ends of all the long bones. The bones cut with diminished resistance. On section, a deep rachitic metaphysis entirely free from calcium was exposed. Into it the proliferative cartilage extended in irregular prolongations. The trabeculae were surrounded with broad zones of osteoid.

The rats exposed to the sunlight, on the other hand, showed none of the evidences of rickets. The thorax was not deformed; the costochondral junctions were normal. There were no fractures of the ribs. The ends of the long bones were not enlarged. The long bones cut with great resistance. On microscopic examination the cartilage was normal. The proliferative zone was completely calcified. The trabeculae were completely calcified. The condition found was normal, except that both microscopically and grossly the bone was more delicate than in the rat of corresponding age reared on satisfactory diets. Though the sunshine completely prevented the development of rickets, it did not entirely compensate for the deficiency of phosphorus in the diet, as regards the growth and development of the rat as a whole or of the skeleton.

There were some noteworthy findings outside the skeleton. An abundance of fat was present. In the control rats the fat was scant. The thymus was only partially involuted. The spleen was not enlarged.

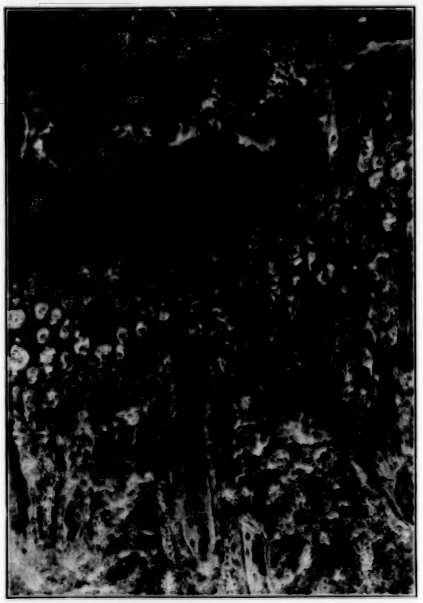

Fig. 4.—Epiphyseodiaphyseal junction of a bone from a rat on a rickets-producing diet, but exposed to sunlight. Note the complete calcification of cartilage and trabeculae.

The improvement in the general condition in our animals which were exposed to the light of the sun was convincing evidence that the effect of light was not on the skeleton alone. Sunlight obviously had a profound effect on every cell in the organism.

COMMENT

Sunlight effectually prevents the development of rickets in the rat. We have already shown, as has also Pappenheimer, that cod liver oil prevents the development of rickets in the rat. As nearly as we can judge from the roentgenograms furnished by Huldschinsky and others, the mode of healing at the cartilage-shaft junction induced by the ultraviolet ray (or sunlight) is exactly analogous to that which occurs after the administration of cod liver oil, as determined by Howland and Park.[25] The time relations are also similar. Huldschinsky found that the ultraviolet ray produced definite evidences of healing at the end of four weeks, and at the end of two months almost complete healing. Howland and Park found that cod liver oil first gave rise to evidences of healing at the junctions of the cartilage and shaft of the long bones three weeks after the administration was begun, and that at the end of about two months the calcification of the diseased ends of the shafts seemed to be complete. Moreover, as the result of the gross and histologic examinations made on the rats fed the rickets-producing diet, 3143, but exposed to sunlight, it is possible to say that the changes produced by sunlight in the skeleton do not differ in any important respect from the changes produced when the animals are kept in room light but on a diet supplemented by cod liver oil.

When cod liver oil is supplied to rats living in room light on diets well supplied with calcium but deficient in phosphorus and lacking in fat-soluble A (and possibly another factor), it brings about an improvement in the animal which is general. If the defects in the diet are not so severe as to preclude the possibility of any favorable effect at all, cod liver oil promotes growth, muscular development and the storage of fat; it improves the condition of the hair and stimulates sexual activity and reproductive power. The rat becomes more active and approximates more nearly the normal animal. It is obvious that cod liver oil does not act on the skeleton alone. Its effect on the calcification and growth of the skeleton is merely the manifestation of its effect on a single tissue.

What we have just said in regard to cod liver oil, we may say, apparently with equal truth, in regard to sunlight. Sunlight, when supplied to the rats living on diets defective in their salt composition, as specified above, and in a factor or factors present in cod liver oil, brings about a general improvement in the condition of the animal. It promotes growth, muscular development, the accumulation of fat, the growth of the hair, sexual activity, and reproductive power. The rat becomes active, eats more food, and approximates closer the healthy animal. It has been no accident that

25. Howland, John, and Park, E. A.: Some Observations on Rickets, Arch. Pediat. **37**: 411, 1920: The Radiographic Evidence of the Influence of Cod Liver Oil in Rickets, Bull. Johns Hopkins Hosp. **32**: 314, 1921.

sunlight has been found to exert a favorable effect in tuberculosis, in anemia, in the condition commonly referred to as the "exudative diathesis," in the treatment of surgical wounds and burns. Light cannot be thought of, any more than can cod liver oil, as acting on the skeleton alone. Though the deposition of lime salts which it causes affords a most striking, visible and measurable evidence of its action on the skeleton, its favorable influence there is probably not greater than its favorable influence elsewhere.

The experiments that we have reported have a biologic significance which extends far beyond the cure of rickets. Cod liver oil contains and light embodies something which is essential for optimal cellular function. Cod liver oil, or light, when made available to an animal previously deprived of them, permits the organism to put into successful operation mechanisms which otherwise would have been ineffectual. Neither cod liver oil nor light meets the defect in the composition of the diet directly by supplying to the body either calcium or phosphorus. Both must meet them indirectly, in a manner at present unknown, by so activating or altering the processes of the body as to secure a more efficient utilization of those substances which are directly or indirectly concerned with ossification and calcification. We do not believe that the diversity of favorable effects obtained from the therapeutic use of cod liver oil or of light can be explained in any other way than on the theory that by improving the efficiency of the organism it enables the organism to work with increased economy and to deal successfully with the exigencies of environment.

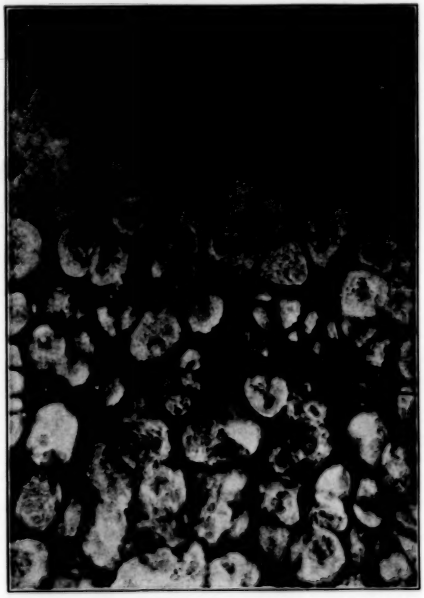

Fig. 5.—Highly magnified cartilage from the provisional zone of calcification of the bone of a rat exposed to sunlight while on a rickets-producing diet. This picture shows the deposit of lime salts between the cartilage cells (indicated by arrow).

Our experiments indicate that diets which are defective at room light or in darkness may cease to be defective in the presence of active light rays, and, conversely, that diets which are satisfactory in the sunlight may become unsatisfactory at room light or in darkness. It would seem that diets which suffice for the maintenance of optimal health during a life in darkness may supply an amount of dietary factors unnecessary for an individual who is irradiated by sunlight. From this point of view it becomes necessary to think of certain factors which can be taken into the body in the food as being able to compensate for deprivation of light, and of light as being able to compensate for the deprivation of certain dietary factors. The experiments suggest, therefore, that throughout the animal and perhaps also the vegetable kingdom there may be balances between the amounts of active light required and the amounts of certain food essentials requisite for the maintenance of health. Under the abnormal conditions imposed on animals by domestication or on man by civilization, it may be necessary to supply more light to replace the lack of certain dietary essentials or to increase the latter to compensate for deprivation of light. For example, the negro, because of his heavily pigmented skin absorbing light less readily than the white man, may require more light or, not receiving it, more of the corresponding factor or factors in the food, in order to maintain an optimal condition of health (e. g., to prevent the development of rickets). The available supply of light must be considered in the future in planning diets for prisoners, miners and all other individuals who are deprived of their exposure to light by occupation or other circumstances.

Our experiments indicate in a broader sense that just as we live in an atmosphere of air and breathe air, so we live in a medium of light and, so to speak, breathe light. That is, light, like air, is absorbed, and in some way influences cellular function.

While one group of students of rickets has been groping for proof that the cause of the disease lay in physical conditions, another group has been too intent on the proofs of the curative properties of a dietary factor contained in cod liver oil for the proper consideration of other possibilities. Two factors, to all external appearances of a totally different nature, one contained in cod liver oil and the other in light, are operative in the prevention and cure of rickets. This fact explains, in part at least, the confusion that has arisen concerning the etiology of the disease.

We do not regard the etiology of rickets as a solved problem. We do not doubt, however, that the demonstration of the curative action of light in rickets is a substantial step toward the complete understanding of the cause of this disease. Experiments with rats by Sherman and Pappenheimer [26] and ourselves [27] have

26. Sherman, H. C., and Pappenheimer, A. M.: Experimental Rickets in Rats, I, A Diet Producing Rickets in White Rats, and Its Prevention by the Addition of an Inorganic Salt, J. Exper. Med. 34: 189 (Aug.) 1921.

27. Shipley, P. G.; Park, E. A.; McCollum, E. V., and Simmonds, Nina: Studies on Experimental Rickets, III, A Pathological Condition Bearing Fundamental Resemblances to Rickets of the Human Being Resulting from Diets Low in Phosphorus and Fat-Soluble A: The Phosphate Ion in Its Prevention, Bull. Johns Hopkins Hosp. 32: 160 (May) 1921.

shown that, in the absence of certain light rays and of a factor or factors contained in cod liver oil, a disease indistinguishable from the rickets of human beings may be produced through a deficiency of phosphates in the diet. Rickets so produced may be cured by cod liver oil or prevented by certain light rays. We have also shown that in rats fed on a diet in which the phosphate ion is sufficiently abundant, rickets does not develop even in the absence of certain light rays and of a factor or factors contained in cod liver oil.

Thus, experimentation with the rat makes it appear that deficiencies in light or in a factor or factors contained in cod liver oil do not cause rickets but rather permit defects in the inorganic composition of the diet to become effective. The disease is chiefly the expression in the skeleton of the disturbance of the inorganic metabolism in question. Our experiments have indicated that the function of light and of a factor or factors contained in cod liver oil, so far as rickets is concerned, is to exert a regulatory influence over the mineral metabolism of the body having to do with ossification and calcification. When the body is deprived of the regulatory action of certain light rays and of a factor or factors contained in cod liver oil, such disturbances in the inorganic metabolism of the body are permitted to develop.

As a result of these experiments with rats there is not the slightest doubt in our minds that either rickets or osteomalacia could be made to develop in human beings deprived of the protective influence of light rays and the dietary factor or factors contained in cod liver oil as easily as in the rat through similar alterations in the salt composition of the diet. Indeed, it may be that human beings are especially sensitive to even slight disturbances in the relations of the inorganic constituents of the diet when lacking the protective influence of light and the factor or factors contained in cod liver oil.

Our experiments with the rat, therefore, make us think that in many instances the development of rickets in the human being may be due primarily to abnormal relations between certain mineral constituents of the diet; i. e., the disease has a purely exogenous origin. We are not at all certain, however, that the disease always has an exogenous origin. We think it probable, indeed, that rickets in some instances has an endogenous origin. It seems likely that in human beings, especially when deprived of the protective influence of certain light rays and of a factor or factors contained in cod liver oil, the mineral metabolism may be disorganized from causes operating within the body in such manner as to give rise to rickets.

SUMMARY

1. The object of the experiment was to determine whether or not sunlight prevents the development of rickets in the rat.

2. A diet was employed which at room light regularly gives rise to a disease in its essential features identical with rickets as seen in human beings. The diet was high in calcium, low in phosphorus and was insufficiently supplied with fat-soluble A. In other respects it was well constituted.

3. Eighteen rats were placed on the diet. Twelve were exposed to sunlight for a total of 242 hours over a period of sixty-two days. Six were kept under conditions of ordinary room light as control animals.

4. The control rats, killed with ether at the end of sixty days, all showed rickets.

5. The rats exposed to sunlight, killed coincidently, remained without exception entirely free from rickets. The absence of the lesions of rickets was confirmed by histologic examination.

6. The beneficial effects of the sun's rays were not limited to the skeleton, since the condition of the animals underwent a general improvement under the influence of the treatment with sunlight. The effect of the sunlight on the skeleton was a manifestation of its favorable effect only on a single tissue.

7. The exposure to the sun's rays, however, did not entirely compensate for the defects in the diet. The animals remained undersized; the bones, though completely calcified, remained thin. Though the sunlight did not alter the defects in the diet, it permitted the animals to thrive to a limited extent in the presence of them.

8. It is necessary to conclude, therefore, that the sunlight in some way raises the efficiency of the body cells. It enables the organism to put into operation regulatory mechanisms which otherwise would have been inoperative or ineffectual.

9. The effects of sunlight and of cod liver oil on the growth and calcification of the skeleton and on the animal as a whole seem to be similar, if not identical.

PURPURA FULMINANS DURING CONVALESCENCE FROM SCARLET FEVER *

GUTHRIE McCONNELL, M.D.
AND
HARRY L. WEAVER, M.D.
Pathologist and Medical Resident, Respectively, City Hospital
CLEVELAND

In a rather superficial review of the literature of the last twenty years, reports of about fifty cases of purpura hemorrhagica and of purpura fulminans associated with scarlet fever have been found. Of these fifty cases probably less than half have been of the fulminating type.

There seem to be many conditions in which purpura may appear. According to Crocker,[1] it may occur in the course of specific fevers, especially in typhus, variola hemorrhagica and epidemic cerebrospinal meningitis, and, less often, in typhoid fever, measles, scarlet fever and septicemia. He holds that there is much evidence of the importance of toxins, whether of bacterial or other origin, in the production of probably all the severe forms of purpura, and of many of the milder forms. That the purpura is probably due to bacterial action is indicated by its occurrence in connection with well recognized bacterial diseases, by its appearance in groups of cases, and by the fact that in a few instances bacteria have been found in the blood.

There is little doubt that rupture of the vessels takes place in the majority of instances. This probably is preceded by an obstruction of the vessel. A common cause of this condition is thrombosis, which may follow injuries to the vessel wall by the action of toxins alone, or by the bacteria themselves, injury by the bacteria being probably the more common. Such a thrombosis, infectious in character, will tend to alter seriously

* From the laboratory of the City Hospital.
1. Crocker: Diseases of the Skin, Philadelphia, P. Blakiston's Son & Co.

the vessel wall. According to Adami, the primary change is in the endothelium of the vessels, with degenerative processes taking place in the walls, followed by rupture and hemorrhage. Some clinicians have thought that the hemorrhages have occurred too rapidly to be the result of degenerative changes; but it has been proved that the endothelium may show alterations within a few minutes after the introduction of toxins. As will be shown later, the microscopic picture of the tissues in our case reveals the vascular changes that are considered the cause of the hemorrhages.

Concerning purpura in the course of scarlet fever, Crocker mentions the occurrence but gives no references. Osler refers to purpura fulminans, and says: "In this very rare variety, ecchymoses extend with startling rapidity, and within a few hours an entire extremity or the greater part of the trunk may assume a blue or reddish-black color. This disease usually ends fatally in from eighteen to forty-eight hours, and no patient has recovered." He mentions three cases occurring during convalescence from scarlet fever, in two of which hemorrhagic bullae formed.

Stevenson,[2] in 1912, made quite a thorough review, and found that only thirty-three cases of purpura associated with scarlet fever had been reported by American and foreign writers. He overlooked a few references, and others have been reported since then, but probably not more than fifty altogether.

In view of the great number of cases of scarlet fever that exist throughout the world, it is evident that this complication is distinctly unusual. Stevenson quotes some rather interesting statistics. His patient was seen during an epidemic of about 250 cases. Voelcker (1905) reports that in 4,926 necropsies at the Children's Hospital in London, there were but fifteen cases of purpura hemorrhagica following infectious diseases of all kinds. Rolleston and McCririck,[3] in discussing their case, state that "of sixty-four cases of purpura fulminans published to date, seventeen have followed scarlet fever, the ecchymoses occurring usually in the second, third or fourth week of the disease."

Seven additional cases have been reported, and the appearance in all has been about the same. The patient as a rule has been convalescing from scarlet fever when the ecchymoses suddenly appeared. There seems also to have been some relationship between the time of appearance and the severity of the case.

In the instance reported by Bertling,[4] a healthy man, aged 18, awoke with a sore throat. Within thirty-six hours, a typical scarlet rash appeared. The following noon a bluish-black discoloration was noted on the upper part of each thigh and the lower part of the abdomen. The discoloration extended rapidly, and the patient died within seventeen hours after the appearance of the purpura and about seventy hours after the appearance of the first symptoms. At the other extreme is the case of Biernacki and Dykes.[5] A boy, aged 6, had an attack of scarlet fever and recovered completely. In the seventh week following, he had a moderate attack of tonsillitis, streptococcic in character, from which he recovered in two days. At the beginning of the eighth week, a purpuric patch, 4 inches (10 cm.) in diameter, appeared suddenly on the outer side of the right ankle. The question comes up as to whether this should be considered a sequel of scarlet fever or of the streptococcic sore throat. The latter would seem more probable.

Fig. 1.—Purpura fulminans: distribution of lesions on arms and hands.

In many of the cases reported, there were no indications of involvement of the mucous membranes, no hematemesis, hematuria or bloody stools being noted. In others, these were present in varying degree. In but few instances were necropsies obtained. McCririck[6] found, in his case, that the ecchymoses extended to the deep fascia covering the muscles. No hemorrhages were found in the brain, suprarenals or other organs. There was a slight extravasation of blood in the perirenal tissue on the right side. Cultures made from the heart and the ecchymoses were sterile.

REPORT OF CASE

A report of the case that came under our observation is herewith presented:

M. T., a girl, aged 6, white, fairly well developed and nourished, was admitted to the hospital, April 27, her illness having developed the day before with a sore throat. The hands became swollen and painful, so that she could not hold anything. On admission, the temperature was 39 C. (102.2 F.); the pulse, 122; the respiration, 22. The physical examination was negative with the exception of the skin, which showed a faint but definite rash. The tongue was red and swollen, the papillae red and prominent. The pharynx and palate were intensely red.

The patient improved; the temperature returned to normal, and remained so for about a week. May 11, it suddenly shot up to 40 C. (104 F.). The patient's condition had been noted as not as good as before. She was drowsy most of the time and complained of pain in the feet. Her left foot became discolored, about half way up the dorsum, and very painful. No other areas of ecchymosis were noted. May 12, the temperature was down to 37 C. (98.6 F.) at 4 a. m., but went up to 40 C. (104 F.) at 4 p. m. The left foot had become much darker. The dorsalis pedis artery was not palpable, but there were pulsations in the popliteal artery. The right heel also was discolored. Early in the morning, the right forearm showed an ecchymotic area, which extended and became darker during the day. The forearm was swollen and very painful. A

2. Stevenson, E. C.: West. M. Rev. 17: 116, 1912.
3. Rolleston and McCririck: Brit. J. Child. Dis. 7: 58, 1910.
4. Bertling, F. E.: Case of Purpura Fulminans, J. A. M. A. 53: 383 (July 31) 1909.
5. Biernacki and Dykes: Brit. M. J. 2: 903, 1913.
6. McCririck: Brit. J. Dis. Child. 9: 154.

few small areas appeared on the neck. The urine, which had contained only a few red cells, was now almost pure blood. May 13, the temperature was 37.2 C. (98.9 F.) at 4 a. m. The last temperature, which was taken that afternoon, was 41 C. (105.8 F.). The patient's condition was very much worse and, in addition to the areas of ecchymosis already

Fig. 2 (same case as Figure 1).—Distribution of lesions posteriorly.

mentioned, the left ring finger, the tip of the nose, the left buttock and the back were involved. The distribution is shown very clearly in the accompanying photographs, which were made after death. The patient died, May 14. Smears and cultures made from the nose and throat did not show diphtheria bacilli. Blood cultures were negative.

NECROPSY FINDINGS

Multiple ecchymoses of skin, submucosa of bladder and of splenic flexure of colon were noted, and cloudy swelling of kidney with glomerulonephritis. There was an acute splenic tumor and hemorrhagic infarct of the brain. The tip of the nose, including the columna, showed a distinct purplish discoloration, with no apparent change in the epidermis. Its outline was indefinite, excepting inferiorly at the junction of the nose and lip, where it was sharp. The rest of the head was negative. The right forearm, a short distance from the elbow downward, and the hand were dark purple, swollen and covered with blisters. The largest of these bullae were in the palm of the hand. Some of those on the flexor surface of the forearm had ruptured, and from them a bloody fluid oozed. On the left forearm, there was a patch of discoloration similar to that of the other side but without blisters. This area, although covering almost the entire extensor surface, did not involve any of the flexor portion and did not extend beyond the wrist. The third finger of the left hand was dry and black. The left foot exhibited a similar patch of discoloration, sharply delimited on the dorsal surface at the metatarsophalangeal joints, involving all the toes and a large part of the sole. The right foot showed a more extensive involvement, the entire dorsum up to the ankle joint being discolored. Minute blebs were present on most of the toes. Posteriorly, the right buttock showed a very large and typical area, and a little distance above it a smaller lesion. The larger of the two was slightly ulcerated. Although all of these lesions were distinctly localized, the actual edge was rather irregular, and a bluish discoloration, extending about 1 cm. (⅖ inch) beneath the edge of uninvolved skin, was very apparent.

Examination of the abdomen revealed that the peritoneum was smooth and glistening throughout. No fluid and no adhesions were noted. A diffuse hematoma was present in the prevesical space, infiltrating the tissues of the anterior culdesac and of the lateral and posterior ligaments of the uterus.

A subperitoneal hematoma was present also at the splenic flexure of the colon, posteriorly.

The rectum contained two or three small areas of submucous hemorrhage in the lower portion. The mucosa was intact.

The submucosa of the bladder was enormously swollen and hemorrhagic, particularly at the base. The walls were very thick and of a dull rusty color.

In the left temporal lobe of the brain was a superficial area of softening. The tissues were red, hemorrhagic and friable, and the veins were filled with thrombi. The pia was also much injected. Neither the suprarenals nor other organs showed any hemorrhage or other gross abnormalities.

The microscopic examination of the heart, lung, kidney, spleen, pancreas and suprarenal revealed nothing abnormal so far as the blood vessels were concerned.

In the liver, there was present a well marked leukocytic infiltration, surrounding the majority of the portal vessels. Some of the larger vessels showed distinct swelling and vacuolation of the cells of the muscular coat, but no round-cell nor leukocytic infiltration was noted.

In several instances, the small portal vessels were occluded by masses of granular fibrin in which numerous mononuclear cells and a few leukocytes were enmeshed.

In some portions of the bladder the mucosa was destroyed. In the underlying tissues, there was a widespread hemorrhagic and leukocytic infiltration. Some of the smaller vessels contained thrombi.

Fig. 3 (same case as Figure 1).—Distribution of lesions on lower limbs.

In the section of the intestine examined, the mucosa was intact. Hemorrhagic and leukocytic infiltration of the submucosa with thrombosis of some of the smaller vessels was noted.

In the brain, the capillaries, many of which contained a large number of leukocytes, were greatly congested. In many, there was a distinct parietal mass of granular fibrin, the free lumen being filled with well preserved blood cells. In some, the obstruction was almost complete. In a few instances, there was an extensive perivascular infiltration by lymphocytes and leukocytes, with a conspicuous extravasation of red blood cells.

In a large vessel in the pia, one portion of its wall was much thickened by a leukocytic infiltration of the muscularis, accompanied by edema. The endothelium was missing entirely. On the side opposite the area mentioned above, the wall was destroyed almost completely. Immediately external to this was a large, quite well circumscribed mass of fibrin containing many red cells, masses of leukocytes and innumerable granules of broken down nuclei.

Examination of the skin revealed, in some of the smaller vessels of the subcutaneous tissue, an infiltration of the walls by leukocytes and a filling of the lumen by a mass of homogeneous material. The latter was, in places, adherent to the adjacent wall, blood cells being present in the unattached areas. A few of the larger vessels showed an increase in the thickness of the walls, as a result of edema. The microscopic picture in the above mentioned tissues was that of infectious thrombosis, associated with varying degrees of degenerative processes. The most conspicuous feature of the case was the skin lesion which, microscopically, was due to the tremendous infiltration of the subcutaneous tissue by red cells. The overlying corium showed slight hemorrhagic infiltration of the deeper layers but was otherwise negative, and the surface epithelium was unchanged. There was practically no degeneration of the tissues.

At first a diagnosis of gangrene was made, but the clinical course did not support that view. The lesions evidently were of hemorrhagic nature and were not accompanied by degenerative changes other than the formation of bullae. They did not appear primarily at the tips of the fingers or toes, but higher up on the arms and feet. The involved areas extended both upward and downward in a general way, but portions that were at one time intensely discolored became paler and, to some extent, cleared up. In his case, McCririck* noted that the larger areas developed in rings with a central area of healthy skin, which gradually was encroached on. A somewhat similar condition was noted in our case, around the inner malleolus of the right ankle. It was not involved, but was almost completely surrounded by ecchymotic tissue.

SUMMARY

The fifteenth day after the first symptom of illness, and the seventh or eighth day of normal temperature, the temperature went up suddenly to 40 C. (104 F.). The same day the patient's left foot became discolored, further ecchymoses appeared on the body in the course of some forty-eight hours, the urine and stools became bloody, and the fourth day after the first ecchymotic area was seen, the patient died.

The postmortem examination revealed, in addition to the skin ecchymoses, hemorrhages in the bladder, intestine and brain.

Microscopic examination revealed that the discoloration was not due to gangrene but to interstitial hemorrhages following infectious thrombosis.

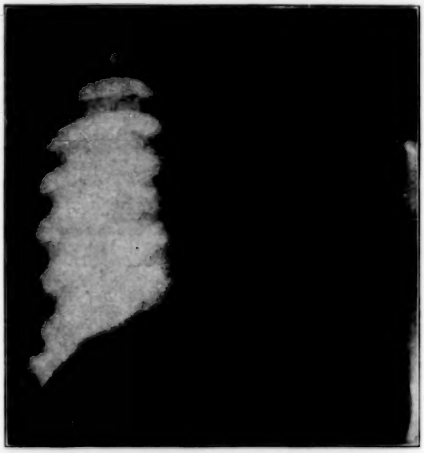

Fig. 1 (Case 1).—The right lung, one week before operation, showing well marked and general peribronchial thickenings, and finer shadows radiating from them, but of the linear type. The apex is comparatively clear. The left lung, owing to a thick pleura and to marked and general fibrosis on that side, shows only as a blurred, dense shadow. With the stereoscope, the large cavity in the upper lobe could be fairly made out. The contraction on that side, the shoulder droop, the absence of aortic shadow on the right side, etc., may be noted. Nature was trying to cause the lung to collapse.

Virchow's Contributions to the Dictionary.—Virchow used to say he was proud of the purity of his linguistic creations. The list includes leukemia, thrombosis, embolism, myoma, glioma, and myxoma. He also stated that he was the first to use the term "infectious disease." An editorial in the *Medizinische Klinik* comments on the way he used to dig into the history of a subject, and how he always expressed appreciation of the work of those who had preceded him. He complained that the "knowledge of young medical men nowadays never extends farther back than at most three to five years. What was published over five years ago simply does not exist for them."

A REPORT OF FOUR RECENT CASES OF THORACOPLASTY

A. G. SHORTLE, M.D.
AND
W. A. GEKLER, M.D.
ALBUQUERQUE, N. M.

During the last year, the American physician has shown renewed interest in the surgical collapse of the lung; and so few cases have been reported that we feel assured that the cases herewith reported will be of interest to those treating pulmonary tuberculosis. In this short paper, we cannot go into the early work of Karl Spengler (from 1890 to 1899), with whom one of us (Shortle) later had the honor of acting as assistant (during the winter of 1907 and 1908), further than to say that his success was not such as to encourage others in the use of his methods. Nor can we more than mention the work of Schede, Wilms and Friedrich in early operations, and others whose pioneer work finally led to the present day methods.

The failure of the early operations was probably due to a number of reasons:

First, the removal of almost all of the ribs on one side meant a bloody, prolonged operation, with accompanying shock, that many patients could not survive.

Second, the removal of practically one side of the chest wall resulted in an upset of the normal respiration, with the so-called mediastinal flutter, which, in some cases, resulted fatally in a short time.

One of us (Gekler) acted as assistant for eighteen months to Brauer, at Marburg, when he suggested the operation to Friedrich which now bears the latter's name. This operation, greatly modified by Sauerbruch, has come to be the one generally adopted.

In America, the rapid spread in the use of artificial pneumothorax by the phthisiotherapeutist is, no doubt, largely responsible for the renewed interest shown in thoracoplastic methods. It has been found that in about 25 per cent. of the patients in whom artificial pneumothorax is attempted there are pleuritic adhesions so extensive as to prevent successful use of the procedure, so that in many very promising cases the benefit of that treatment cannot be received.

Samuel Robinson, now of Santa Barbara, Calif., Freeman of Denver and a few others operated in a few cases, ten or eleven years ago. The former, in several cases, performed the complete resection of the bony chest wall as advocated by Friedrich; and we

know of one very excellent and remarkable result that he obtained. But in this country, as in Europe, surgeons have turned to the simpler and safer operation of Sauerbruch, which he devised in 1914.

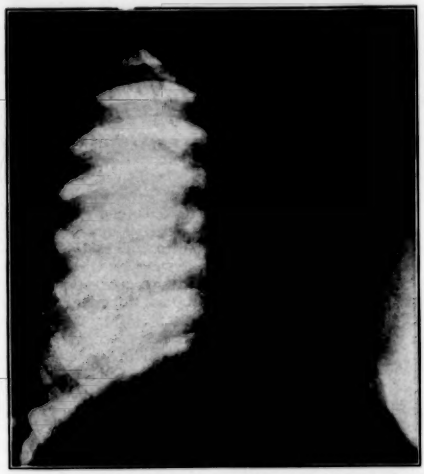

Fig. 2 (Case 1, sixteen months after operation).—Effective collapse of the left lung. When it is remembered that the heart is entirely on that side, it is evident that there is not much room for the lung. The position of the clavicle and the scapula may be noted. The right side is overexposed to get penetration on the left.

Ever since beginning to use artificial pneumothorax, ten years ago, we have contemplated accomplishing collapse in some of our inoperable cases by means of thoracoplasty; but we have delayed from year to year.

During the years of 1912 to 1914, one of us had three such cases in which operation was performed, using the Wilms operation of the six upper ribs. There was a brilliant result in one case; but the other two were not satisfactory. (This, no doubt, was because the collapse was not sufficiently complete—the lower part of the lung remaining entirely uncollapsed.) Ether was also used as an anesthetic, which we now think a mistake.

In May, 1920, we selected two suitable cases for operation and arranged with Dr. Freeman of Denver to operate. He performed a slightly modified Sauerbruch operation, resecting each rib from the first to the ninth, inclusive, removing from 6 to 8 inches (from 15.24 to 20.32 cm.) of the upper ribs, and being careful to get as large a section as possible from the first and second ribs. Each operation was performed in one sitting, instead of in two sittings, as Saugman and some others recommend. Gas-oxygen anesthesia was used.

Below is a brief history of the cases in which operation was performed by Dr. Freeman:

REPORT OF CASES

CASE 1.—A widow, aged 45, a teacher, whose previous health had been good, had pleurisy with effusion in 1910, and the same year was debilitated by frequent loss of blood from fibroid tumor of the uterus. In 1918, cough developed, and soon after, partial loss of voice. A diagnosis of pulmonary tuberculosis was made in September of that year. She was referred to us and arrived in Albuquerque late the same month. On examination the entire left side of the chest showed râles after cough. The sputum was positive; and there was an afternoon temperature of from 99 to 99.5 F.

The disease was progressive; and all symptoms became slowly worse. In April, 1919, we attempted artificial pneumothorax, but found pleural adhesions at every point we made a puncture.

The patient returned East for three months, but came back to Albuquerque in November. She continued to get worse; and in February, 1920, she had acute appendicitis and was operated on with a local anesthetic. The appendix was found to be tuberculous.

By May, 1920, the patient had an afternoon rise of temperature from 100 to 101.5 F. every day. Twenty-four hour sputum was from 4 to 6 ounces (from 120 to 180 c.c.) and all symptoms were progressive. Moist râles were heard from the apex to the base, and there was a large cavity extending from the first to the third ribs.

She was operated on, May 18, 1920. Pain was marked for five or six weeks; but she was able to be propped up in bed after five weeks. Fever subsided after the first week. The temperature reached normal after four weeks and remained so thereafter. By October, she was able to walk to meals in the sanatorium and to walk a block or two, twice a day.

In July, 1921, the temperature was normal and the pulse ranged from 80 to 90. The patient weighed 135 pounds (60.75 kilograms), a gain of 20 pounds (9 kilograms). Sputum was reduced to less than 1 ounce (30 c.c.). She walked three quarters of a mile (2.14 kilometers), twice a day.

CASE 2.—A single man, aged 32, an instructor in a university, whose previous health had been good, developed cough and slight hoarseness in the winter of 1917, but continued to work. In January, 1918, a rise of temperature of between 99 and 99.5 F. developed, and laryngeal and pulmonary tuberculosis was diagnosed.

He came West in April, 1918. He was put on the usual rest treatment. There was some symptomatic improvement at first; but in August and September, high fever developed—the temperature rising to 103 F. in the afternoon; and a large cavity formed in the right apex. Probably as a result of the free drainage from the cavity, the temperature returned to normal in December, and remained normal most of the

Fig. 3 (Case 2).—The right lung just before operation, showing Nature's effort to collapse this lung, the heart being drawn very markedly to the right. The single plate does not show the large cavity that extended from the first to third ribs, but the stereoscopic roentgenograms did. The right costophrenic angle appears fairly clear, which encouraged us in hoping that we could accomplish artificial pneumothorax; but adhesions were found everywhere.

time, but with periodic "flare-ups" until the operation in May, 1920. Sputum remained profuse, and physical signs were unimproved.

Following operation, the temperature rose to 103 F., but slowly declined to 99 F., persisting at that point for about

two months, and finally, subsiding to normal, where it has remained since. There was marked increase of sputum for the first six or eight weeks; then slowly it decreased from a daily average of 3 or 4 ounces (90 or 120 c.c.) to practically nothing.

The patient exercises now, and his weight is slightly above the former normal.

Case 3.—A single woman, aged 30, developed symptoms of tuberculosis while in Alaska. She came back to the United States and entered a sanatorium in Oregon, then one in California; but she became progressively worse. She came to Albuquerque in June, 1918, at which time there was active tuberculosis of the left lung from the apex to the base, and there was a large cavity.

We started collapse of the lung almost at once, with most excellent results. After eleven months' treatment, the patient, who then was symptom free except for the lung collapse, returned to California. Then she drifted to Wyoming, and there, unable to recieve the "gas," the lung partially reexpanded and relapse followed.

She returned to Albuquerque in June, 1920; and when we attempted to recollapse the lung, we found, as we expected, that it was not possible. We at once advised thoracoplasty; but the patient would not consent.

After six weeks of high temperature, ranging from 102 to 103 F., she asked that the operation be performed. It was our opinion that it was then too late. The patient, however, was insistent; and as it was her only hope, we arranged with Dr. Cornish to operate.

He used the same technic as that used by Dr. Freeman. There was healing by first intention; but heart incompetence developed and the patient died about nine weeks after the operation.

Case 4.—An Australian rancher, aged 34, single, had pulmonary hemorrhage twenty-one years ago, and had had these hemorrhages at intervals ever since. He had had a chancre eighteen years previously. He came to California four years previously and entered a sanatorium for tuberculosis. He was treated there for two years. He came to New Mexico, and placed himself under our care, about eighteen months ago.

Fig. 4 (Case 2).—Lungs sixteen months after operation. The left side is overexposed so that we could get penetration on the right. Collapse in this case not quite so complete as in Case 1; though symptomatic results are quite as good, or a bit better.

We thought first that his lung was syphilitic. The Wassermann reaction was ++++; but the sputum was full of tubercle bacilli. He was first put on small doses of arsphenamin, which were gradually increased to heavy doses, but with only slight improvement in the lung condition. The patient, himself, suggested thoracoplasty as he had seen the good results in Cases 1 and 2.

This patient had râles following cough, extending from the apex to the second interspace and from the apex to the fourth dorsal spine, on the right; but the râles were fine and suggested an old, quiescent lesion. The left lung showed moist râles, extending from the apex to the base, with or without cough, with cavity signs at the third rib.

The most unfavorable symptoms were the evidences of a weak heart, a blood pressure rather low for even a tuberculous patient, and a bluish tinge to his complexion—suggesting poorly aerated blood.

Dr. Cornish, at my suggestion, resected only the lower seven ribs, expecting to resect the upper three later, hoping in that way to lessen the shock and to place the load on the heart and uncollapsed lung a little at a time.

The patient developed dropsy and died of a weakened heart.

COMMENT

The study of these cases has led us to form some opinions that we hope may help us in the selection of future cases. Henceforth, we will select our cases and not let the patients make the decision, though this is not always easy to do. The really wonderful results in the two cases we had carefully selected show the importance of this. They go to prove that the theory of the operation is well founded. Indeed, the study of the accompanying roentgenograms shows that Nature herself was trying to collapse these lungs, as is evidenced by the deviated trachea, the displaced heart and mediastinum, elevated diaphragm, etc.

The operation is, of course, to be considered only after the safer and simpler artificial pneumothorax has been found impossible to perform. Then the indications are practically those of that operation except for the following limitations:

First, more care must be used in the choice of patients. The patient must be in better general condition physically than would be necessary in artificial pneumothorax, as the shock of operation is considerable.

Second, cases must be selected with more regard to the heart and to the opposite lung than is the case in the simpler operation, for in artificial pneumothorax, the burden is thrown on those organs a little at a time, through a month or more, while in surgical collapse, the load is thrown on them at once. Therefore, a good heart and a fairly good uncollapsed or working lung is essential.

It will be noted that in Case 4 the operation was to be performed in two stages in the vain hope that the patient in this unfavorable case might be able to survive the shock if the operation were performed in two stages. Saugman has for some years advised this; but recently, he has very largely abandoned it as he asserts that as a rule the single operation is tolerated as well as the two-step operation; and the cicatrices formed in the first step of an operation may interfere with the second step.

Gas-oxygen is the only general anesthetic to be considered; but I believe that in many cases local anesthesia, as described by Saugman, is preferable. This is particularly true if his claim that it limits the danger of pneumonia from aspiration can be substantiated. However, recently, according to his assistant Gravensen, he now supplements the procain-epinephrin by "ether inhalations not pressed far enough to abolish cough reflex." To us, this appears to be a matter of such delicate technic in anesthesia that we

V. 192

would hardly hope to attain it or, at least, to know when we had.

There have been those who have questioned the practice of elevating the periosteum before resecting the rib. The periosteum was left in all four cases, leaving a basis for bone regeneration. While this has occurred almost perfectly in Case 2, in Case 1 there is union only from the first to the fourth rib, inclusive; the other five ribs being quite free and "flapping" up and down with each respiration. Naturally, the collapse in this patient's lung is not so complete, or the rest of the part so good, as in Case 2. Evidently, careful elevation of the periosteum before resection is desirable.

It has been found necessary by some operators to supplement this operation by the resection of the first and second ribs in front, so as more completely to collapse the apex. Several procedures have been devised; but that recently described by Archibald of Montreal is probably the best.

We might add that to one unaccustomed to the reexpanded lung of artificial pneumothorax the physical findings in these two otherwise wonderfully successful cases might appear disappointing, for there are some fine râles following cough in the collapsed lung of both patients. While these are in part due, no doubt, to incomplete healing, it is to be remembered that these are cases of atelectasis on a large scale, if we are to put the correct interpretation on them. Every one who has followed a reexpanding lung, collapsed by artificial pneumothorax, has heard these râles.

Fig. 1.—Bile ducts immediately after injection with bismuth paste; duodenal tube in duodenum.

CONCLUSION

We believe that since it is the internist who best appreciates the dangers of the operation and its effects, immediate and ultimate, he should be consulted at least at every step from the anesthetic to the after-treatment. Friedrich, the surgeon, not only accepted Brauer's suggestions in devising his operation, but operated only after considerable insistence on the part of the latter.

114 North Second Street.

Value of Therapeutic Tests in Syphilis.—Therapeutic tests, in general, have meaning only when the patient presents a definite, and, as far as possible, a visible pathologic lesion, on which quantitative estimates of improvement can be made. Mere gain in weight, disappearance of indefinite pains, malaise or nondescript subjective symptoms are usually meaningless. Iodid therapeutic tests, popular with the departing generation, are untrustworthy. So are arsphenamin therapeutic tests. Mercury is probably more nearly immune from such nonspecific effects than either iodids or arsphenamin, although it is well to recall its action in lichen planus, and in occasional cases of sporotrichosis. Carcinoma of the stomach makes false responses to arsphenamin alone and sometimes when this agent is administered in combination with mercury, a point which should be borne in mind when this therapeutic test is made.—J. H. Stokes, *Arch. Dermat. & Syph.* 4:784 (Dec.) 1921.

INJECTION OF THE BILE DUCTS WITH BISMUTH PASTE

AND OBSERVATIONS ON THE FLOW OF BILE

CHARLES F. TENNEY, M.D.
AND
S. H. PATTERSON, M.D.
TOLEDO, OHIO

An instance of injection of the bile ducts of the liver is singular in our experience, and we have been able to find only one report[1] that was similar, in that the bile ducts were injected; but in that case the injection came about in an entirely different way and was not so complete. For this reason and because of the fundamental truths that were developed following the injection, we think this case worthy of being reported.

REPORT OF CASE

Mr. T. P., aged 48, a laborer, was admitted to the Toledo Hospital, Dec. 30, 1920, with a typical attack of acute gallstone cholic. He had severe pain in the upper quadrant of the abdomen, with extreme tenderness and rigidity over the gallbladder on slight pressure.

He was a Bulgarian and his family history was unimportant: he had two attacks of inflammatory rheumatism, one in 1895 and one in 1910. His physical examination gave normal findings with the exception of the tenderness already noted and rigidity over the gallbladder. His temperature was 98.6 F.; pulse, 80 and of normal tension, and respiration, 20. The urine was negative except for a slightly elevated specific gravity of 1.034. It contained no bile. The white blood count was 13,400, with 86 per cent. polymorphonuclears and 13 per cent. lymphocytes. The red blood count was 4,500,000, with a hemoglobin of 81 per cent.

On the day following admission, the duodenal tube was used according to Einhorn's method, as a further diagnostic aid. No typical gallbladder bile was obtained, even after the injection of 75 c.c. of a 33 per cent. solution of magnesium sulphate, but light colored bile, which showed no turbidity, change in color, crystals, or gallbladder epithelium came through the tube. By taking cultures of the bile, colon bacilli were obtained.

Jan. 1, 1921, the temperature rose to 102.6 F., and the pulse rate was 96. The white blood count on this date was 16,400, with 88 polymorphonuclears and 12 per cent. lymphocytes.

His condition was slightly improved, January 5, and he was transferred to the surgical service. A cholecystectomy was performed. The gallbladder was gangrenous, with a perforation near the cystic duct. The remaining surface gave the appearance of a chronic "strawberry gallbladder." A stone the shape of an olive, 3 by 2 cm. ($1\frac{3}{16}$ by $\frac{25}{32}$ inch) was found at the neck of the gallbladder. Because of the friability of the tissue and the difficulty of tying off the cystic duct and artery, hemostats were allowed to remain, and were removed on the fifth day after the operation. Before their removal the drainage was abundant, consisting chiefly of bile.

The patient made an uneventful recovery from the operation, but a permanent biliary fistula resulted.

1 Beall, F. C., and Jagoda, Samuel: Injection of the Bile Ducts with Barium, J. A. M. A. 76:1483 (May 28) 1921.

Eight weeks after the operation, the patient still had an abundant flow of bile from the fistula. He was able to be up and about but did not regain his strength. His weight, originally 165 pounds, was now 125. His skin was clear and his general appearance was good. His digestion was poor and his stools were clay-colored and contained no bile. The blood sugar was 0.075 per cent. with urea 67.2 mg. per hundred cubic centimeters and creatinin 1.60 mg. per hundred cubic centimeters.

Fig. 2.—Stomach with barium meal and duodenal tube passing through pylorus.

March 8, the duodenal tube was passed and 75 c.c. of magnesium sulphate was injected. No bile was obtained, but an abundant amount of clear, viscid fluid, which proved by fermentation tests to contain the pancreatic enzymes, amylopsin, steapsin and trypsin, came out.

The following day, in order to determine the extent of the fistulous tract and its relations to the duodenum, the duodenal tube was again passed. A small amount of milk, containing barium, was injected into the tube, to make clear its outline. At the same time three-fourths the contents of a one-ounce tube of bismuth paste was injected into the external opening of the fistula. The paste passed in with slight pressure and caused no pain. A roentgenogram was immediately taken, and, to our great surprise, we found the liver ducts extensively injected with bismuth paste, as shown in Figure 1.

Before the second picture was taken (fifteen minutes later), the patient was given buttermilk and barium to drink, so that the stomach might be outlined and we could be assured that the duodenal tube was in the duodenum. This was found to be correct, as shown in Figure 2, and it was further shown that there was no connection between the fistulous tract and the alimentary canal. The obstruction was apparently at the junction of the hepatic duct with the common duct.

Immediately after the injection of the bismuth paste the patient developed discomfort in the region of the liver. It gradually grew worse and in twelve hours he began to have extreme distress, and morphin was required to relieve the pain. In twenty-four hours he had developed jaundice, a pinched expression of the face, and a temperature of 101 F. The urine was dark-colored and contained a considerable quantity of bile. At the end of thirty-six hours the paste gradually began to come out through the external opening, the bile began to flow, and the distress of the patient was much less. The third roentgenogram, taken at this time (Fig. 3), shows the paste, which had extended to the margin of the liver, to be disappearing; and the tube, which was given the patient to swallow fifteen minutes previously, to be looped in the stomach.

March 11, two days after the injection of the paste, the jaundice was less and the patient had no discomfort. More of the paste came out, and the bile began to flow freely. The duodenal tube was again passed and no bile was obtained. The stool was still clay-colored and contained no bile. March 13, the liver was almost free from bismuth, as shown by Figure 4, and only a small amount was seen around the edge of the sinus. The patient was apparently no worse for the mechanical obstruction to his liver for a period of forty-eight hours.

Being definitely convinced that there was no bile passing into the alimentary canal, we decided to collect a twenty-four hour specimen of bile, that the quantity and rate of flow by various stimuli might be estimated. By means of a tracheotomy tube, which tightly fitted the fistulous opening, the following results were obtained:

(The collection was started at 11:35 a. m.). During the first hour the bile was allowed to flow, and 64 c.c. was collected. The second hour, in a psychic test with a ham sandwich, which the patient was allowed to smell and taste, the flow was diminished to 50 c.c. At the beginning of the third hour a generous, mixed meal was given, and during the first two and one-half hours following this, 128 c.c. was collected. During the third and fourth hours after the meal, 176 c.c., and during the fifth and sixth hours, 36 c.c. was collected. Later another meal was given, with practically the same cycle as to the rate of flow.

A second test with the duodenal tube was then given the patient, and after it had been determined that the tube was in the duodenum, 75 c.c. of a 33 per cent. solution of magnesium sulphate was injected. During the next four consecutive periods of fifteen minutes each, 15 c.c. was secreted, making 60 c.c. during the hour after the magnesium sulphate was injected. There was no increase in the rate of flow, or change in color or in the consistency of the bile from the tracheotomy tube, after the injection of the magnesium sulphate.

The estimation of the total quantity of bile secreted during the twenty-four hours was 1,200 c.c.

In our third test we used 120 c.c. of freshly collected bile and poured it through the duodenal tube into the duodenum. The tube, which was attached to the biliary fistula, was then connected to the duodenal tube and the bile was allowed to flow from the fistula through the duodenal tube into the duodenum, for two hours. The next stool of the patient was

Fig. 3.—Bismuth in bile ducts; duodenal tube looped in stomach.

yellow and contained bile. This was six hours after the bile had entened the duodenum.

In the fourth test the bile was again collected for an interval of two hours. This collection was begun five hours after a meal that had been followed by 120 c.c. of bile injected into the duodenum. The quantity secreted was 110 c.c., showing it to be increased three times over the corresponding period in which the patient had had no bile injected into the duodenum.

The idea of administering the patient's own bile through the duodenal tube continuously was soon abandoned because

of the inconvenience and discomfort of the duodenal tube to the patient.

March 29, the patient's condition was better, and another operation, with the intention of joining the bile tract to the alimentary canal, and closing the fistula, was performed. A high right rectus incision was made. A blunt probe was inserted into the fistulous tract, and with it as a guide, the tract was dissected, free of scar tissue, back to the liver. The common duct was practically obliterated by adhesions

Fig. 4.—Bile ducts free of bismuth; only small amount left in sinus.

and scar tissue. An elliptical incision was made into the duodenum. The opening of the hepatic duct was then sutured to the opening of the duodenum with interrupted chromic catgut sutures. A gauze drainage was left and the incision closed, with the drain protruding through the upper end of the incision.

The patient was in fairly good condition following the operation. The drainage of bile, however, persisted. He continued to grow worse after the second day following the operation, and finally died on the eighth day, from peritonitis and myocardial failure. Necropsy was refused.

SUMMARY

The chief points of interest in this case are:

1. The bile ducts of a human liver were injected, and the patient recovered without apparent damage.

2. Magnesium sulphate did not increase the flow of the bile, nor did it change in color or consistency, leading one to believe that in other individuals in which the duodenal tube is used and the bile changes in color and consistency, the magnesium sulphate acts only as a stimulant to contractions of the gallbladder and causes dilatation of the ampulla of Vater, and not as a direct stimulant to the liver, except as the bile in the duodenum increases it.

3. The greatest quantity of bile was secreted during the third and fourth hours after meals.

4. Psychic tests showed no immediate change in flow of bile.

5. One may get normal liver bile by the use of the duodenal tube for diagnostic purposes, even though the patient may have a badly diseased gallbladder.

6. The entrance of bile into the duodenum definitely increased the flow of bile from the liver.

7. Magnesium sulphate injected into the duodenum, which had no connection with the liver, did not increase the flow of bile.

8. Bile injected under the same conditions did increase the flow of bile.

HEAVY BREASTS AS A FACTOR IN THE PRODUCTION OF FAULTY POSTURE *

C. L. LOWMAN, M.D.
LOS ANGELES

The matter of heavy breasts was first brought to my attention eight or more years ago through inquiries from several mothers in regard to some sort of garment that they might obtain for their daughters, who were maturing rapidly and to whom the abnormal movements of the breasts were embarrassing and uncomfortable.

About this time, a patient who was suffering with neuritis, the pain being largely localized in the shoulder girdle area, presented herself at the North Broadway Clinic. She was a Jewess who had borne and reared four or five children. Examination revealed heavy, pendulous breasts which hung down as low as the costal margin. Noting that she had some drooping of the shoulders, with spreading of the scapulae, I thought that possibly the heavy breasts might have something to do with the neuritis. When the shoulders were drawn back passively, the weight of the breasts was at once appreciated. Remembering the use of the handkerchief bandage which I had once used for nursing mothers with heavy and painful breasts, I adjusted one on this patient, who returned in a week saying that she was very much better. She ultimately obtained relief.

Fig. 1.—Posterior view: broad strap used with very heavy breasts and sensitive shoulders. Otherwise narrower ones are used, sometimes passing straight down to the belt and not crossing.

This bandage did two things: first, it lifted up the breasts, and second, the tails of the bandage, which crossed over the shoulders and scapulae and fastened to the tails which passed around the body, held the scapulae back, assisting in improving the posture. The

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several illustrations. The complete article appears in the author's reprints.

relief in this case was undoubtedly due to the maintenance of proper shoulder girdle alinement and consequent control of motion, which gave rest to the structures inflamed. The spasm and soreness of the trapezius muscle were quieted, and the irritation of the spinal acessory and circumflex nerves and their branches gradually disappeared.

As is so frequently the case, we soon afterward had some similar cases, patients with various forms of bursitis in the shoulder girdle region, and it occurred to me that a solution of the brassière question, over which I had been puzzling, was necessary. Thus, I began to devise a garment which would be easily adjustable and which would not be so cumbersome as the handkerchief bandage, yet one that would give a real upward lift. Careful investigation in many stores brought out the fact that all the brassières on the market were circular in their application, and all exerted a flattening effect and downward thrust on the breasts.

A library research of anatomic works elicited the fact that the breast tissue, both glandular and fatty, lies in the reticular spaces formed by the various ramifications of the superficial and deep fascia. The deep fascia lies over the pectoral muscles and is practically a continuation of the costocoracoid membrane, which has its upper attachments along the outer end of the clavicle and the coracoid process; thus, the weight of the breast is suspended mechanically from the shoulder girdle, and the gradual relaxation and stretching of the rhomboid muscles and other fixators of the scapulae allow the shoulders to droop and the breasts to be lowered. This often occurs conversely; i. e., when the breasts are abnormally heavy and the tone of the back and shoulder muscles is lessened, the weight of the breasts pulls the shoulders downward and forward, and by spreading the scapulae, stretches the rhomboid muscles, and often produces irritation along the spinal column in the region of their insertion.

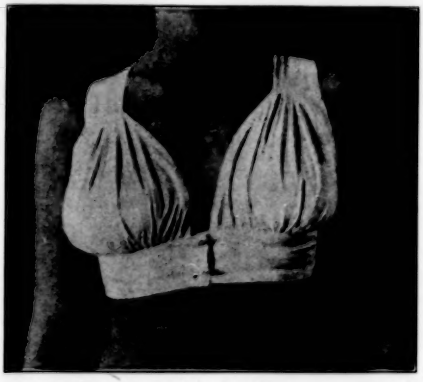

Fig. 2.—Front view: first type used; since greatly modified and improved in many details.

This condition is generally noticeable in girls and women of the lithe type, whose thoracic girth may be small, whose backs are of the long, weak type, and whose breasts may be disproportionately large. The added weight, suspended as it is, drags the shoulder girdle forward, and pulls the upper end of the dorsal curve of the spine downward and forward, tending to increase and lengthen it, thus producing a round back. This change in spinal alinement must be compensated by other static changes which take place in the craniocervical and lumbosacral areas.

Examination and measurement in at least 200 cases showed that the size of the breast had practically nothing to do with other anatomic lines. Small, frail girls may have large breasts, and many large girls and women have small ones. Histologically, also, there is no definite relation between the glandular and fatty elements. Investigation of the literature gives little or no information in explanation of this, except to call attention to many cases of marked enlargement known as "virginal hypertrophy," the cause for which is not given. The relation of breast development to the glands of internal secretion, notably the ovary, is evidenced by the researches of Claypon and Starling. They also call attention to the cyclic changes in the virgin breast at the menses, which they state occur under the influence of ovarian activity.

Their conclusions also point out that lack of development in girls approaching puberty is usually relative to the retardation or defectiveness in the development of the sexual organs. It is not pointed out, however, whether or not overactivity of the sexual organs from irritation or habitual abuse has any bearing on the question. As yet, I have made no observations in this regard. There is no mention in the literature, that I could find, which touches in any way on skeletal alinement, or the mechanical effect of heavy or pendulous breasts, other than the mention of the discomfort in large hypertrophies, when the question of operation is to be considered.

Shortly after a number of unsatisfactory attempts by special corsétiers and patients to make such a garment, a young woman, who was then six months' pregnant, came under my observation. She complained of very painful breasts, owing to the rapid enlargement, especially after any active movement. When she attempted to run a few steps, she had to hold her breasts. As she was a good seamstress, I had her make the garment shown in Figures 1, 3 and 4, which was the result of several fittings. It gave her immediate relief. Feeling sure that reasonable control of the position of heavy breasts in growing girls would prevent the ultimate pendulous condition, as well as prevent the effect on the shoulder girdle which I have already mentioned, and seeing at once that this garment was just what would be of use to girls and women in all athletic activities, I began using it. Various physical directors immediately welcomed it. Its use in our balancing work in connection with other postural procedures, such as corrective corseting and shoeing, has proved its worth many times, as attested by nearly every person who has worn it.

In stout persons, a solid back piece is made, broad enough to control the roll of fat under the arms and scapulae. A portion of the belt in the axillary line is made of elastic so that it will not interfere with breathing. In very relaxed, pendulous breasts, the pockets can be held together in front with snaps or buttons and the garment worn at night to prevent the breasts from dragging sidewise as well as downward. As a result of this support, the excess skin and the subcutaneous

V. 192

tissue which is slacked off will be gradually removed. Because the supporting straps assist the patient to "stand straight," I have found that in many cases of relaxed posture in which I formerly used a high backed corset with shoulder straps, I can now use one with a medium high back and maintain the shoulder position with this garment. When the shoulder straps are properly adjusted to lift the breast the desired amount, they do not need further attention. The garment is unfastened in front and removed like a coat, by slipping the arms out of the loops.

Figure 5 illustrates a tall, thin patient with long body, flat, small thorax, relaxed posture, and with moderately heavy breasts, with and without the brassière.

As a proof that the breast weight does influence shoulder position, I report briefly the subjoined case:

A healthy young woman of medium height and weight, a physical director in a neighboring city, came to me to be examined for admission to the reconstruction department of the Army. She stated that her right shoulder was low and wondered whether or not this brassière, with which she was familiar, would be of benefit to her. Examination revealed a moderate degree of hypertrophy of the right breast, which caused it to hang about an inch and a half lower than the left. The right shoulder was correspondingly pulled down lower than the left (Figs. 2 and 6). The brassière was made with pockets to fit and the straps adjusted thus: The right strap was fastened to the belt behind the left side as usual; the left strap, however, instead of crossing, was brought directly over the left shoulder and down straight to the belt, making the heaviest pull on the side of the high shoulder, which greatly improved the shoulder girdle alinement.

SUMMARY AND CONCLUSIONS

At least 200 of these garments have been used during the last four years with very satisfactory results. Summarizing briefly, it is valuable for these reasons:

1. It controls excessive breast movement during activities, such as swimming, basket-ball, horseback riding, etc.
2. It supports and corrects pendulous breasts.
3. It supports without producing atrophy, and protects from irritation and trauma against the top of the corset.
4. It serves as a prophylactic aid to corrective clothing in the fight for correcting the present vicious habit of compression which results in atrophy of the breast.
5. It relieves pain in nursing mothers and during menstrual periods, when breasts are sometimes painful and heavy.
6. It supports during the periods of pregnancy and lactation and is an aid in the period of evolution, preventing the pendulous condition so common after childbearing.
7. It acts as a control of shoulder girdle position and is an aid in correction of spinal alinement.

I have presented this matter with the hope that the suggestion will be of as much value to many as it has been to me in giving satisfaction, comfort and relief to those patients who are in need of consideration along this line.

Brockman Building.

Causes of Deaths of Mothers.—Prevention and control of illness and death of mother and child are among the most neglected and potentially the most fruitful domains of American public health administration, and, of the problems concerned, the two greatest are the toxemias of pregnancy (including albuminuria and eclampsia) and puerperal fever, of which, the latter is the more readily approached.—W. T. Howard, Jr., *Am. J. Hyg.* 1:230 (March) 1921.

THE CONVULSIVE DISORDERS OF CHILDHOOD*

JOHN LOVETT MORSE, A.M., M.D.
BOSTON

In taking up the convulsive disorders of childhood, I wish, in the first place, to exclude all those conditions in which convulsions are simply one of the manifestations of some evident disease of the central nervous system, such as cerebral tumor, cerebral paralysis, idiocy or meningitis, and to limit myself to the consideration of those conditions in which there are no evidences of such a disease. In the next place, it must be remembered that a convulsion is merely a symptom, not a disease. This is also true, even if there have been a series of convulsions.

PREDISPOSING CAUSES

It is common knowledge that convulsions occur more frequently in infancy than at any other period of life, that the frequency of their occurrence diminishes steadily during early childhood, and that they are relatively uncommon after seven years. Infancy is evidently, therefore, in itself, one of the predisposing causes of convulsions. There are several possible explanations for this predisposition. One is the rapid growth of the brain, especially during the first year, as it is well known that a rapidly growing tissue or organ is especially vulnerable and irritable. Another is the imperfectly developed condition of the higher cerebral centers, inhibitory in action, which are thus less able than later to restrain the "discharges" from lower centers. This explanation has been criticized by certain authors on the ground that convulsions are more common in the second than in the first six months of life; they claim that this could not be so if undeveloped inhibitory centers were the cause, because the cerebral centers are least developed at birth and develop progressively after birth. They attribute the frequency of convulsions in infancy to spasmophilia, and say that they occur more frequently in the second six months, because spasmophilia is more common at this time. An answer to their criticism is that the irritability of both motor and sensory nerves is very slight in the new-born, that it develops much more rapidly than do the inhibitory centers, and that it is greater during the second half of the first year than at any other period of life. My own experience leads me to believe, moreover, that spasmophilia is not as common as these authors suppose. Heredity undoubtedly plays a part in the etiology of convulsions in early life. There is no doubt that the children of neurotic parents and belonging to neurotic families are more prone to have convulsions than those coming from better stock. All the diseases and conditions that affect the general nutrition likewise predispose to convulsions, because the brain shares in the general malnutrition, and as is well known, poorly nourished nerve tissue is unduly irritable. These facts, while of considerable interest, are, however, not of great importance practically, because all human beings must start as infants and because at present we, as physicians, have very little control over heredity. We can do something, however, to prevent the development of those disturbances of nutrition which predispose to convulsions.

* Read before the Medical Association of Rochester, N. Y., Dec. 7, 1921

EXCITING CAUSES

The exciting causes of convulsions are usually divided into three classes: (1) those that cause direct irritation of the cerebral cortex; (2) those that act through reflex irritation, and (3) those which produce toxic substances which affect the cerebral centers. This classification is fairly satisfactory, but I shall follow it only in a very general way.

We have excluded from consideration practically all of the conditions which cause direct irritation of the cerebral cortex. There are, however, one or two of which it seems worth while to speak. The first of these is cerebral hemorrhage in the new-born. This should be thought of when new-born babies have convulsions, or are twitchy or rigid. Convulsions at this time may, however, also be due to cerebral edema, intestinal toxemia, uremia in the mother, or atelectasis. If there is any bulging of the fontanel, bleeding from the nose, throat or ears, or evidence of paralysis, a lumbar puncture should be done or the subdural space explored through the lateral angle of the fontanel, in order that the baby may be given the chance of operative treatment. Thrombosis of the cerebral sinuses should also be thought of when convulsions occur in very weak and emaciated babies. In such cases there are often, in addition, localized edema and venous congestion.

REFLEX IRRITATION

The importance of reflex irritation in the etiology of convulsions in childhood has, it seems to me, been much exaggerated. I would not say that eyestrain and phimosis cannot cause convulsions; but I have never seen any cases in which I thought that they were the cause, while I have had many children brought to me for convulsions who were wearing glasses or who had been circumcised to stop them. I have seen various manifestations, such as vomiting, looseness of the bowels, fever and irritability, which I have supposed to be due to reflex irritation from dentition; but I have never seen convlusions which were not better accounted for in some other way. It is possible, nevertheless, that the excitability of the nervous system may be increased by irritation from the teeth, and the development of convulsions from some other cause thus made easier. In all the patients that I have seen in whom the convulsions were attributed to worms, I have never found either worms or their eggs, and no patient whom I have known to have worms has had convulsions which could fairly be attributed to them. Yet I have had one case in which I made a diagnosis of epilepsy after a most complete and careful study, including Wassermann tests and examinations of the spinal fluid, blood, urine and stools, who ceased to have convulsions after he had passed a number of roundworms following the administration of an anthelmintic by an elderly woman in the neighborhood. I have also known convulsions, which had persisted for some years, to stop after the stretching of the sphincter ani by a quack doctor.

There can be no doubt that babies and children often have convulsions after eating indigestible and improper food, and that the convulsions cease after this food has been removed from the digestive tract. It seems reasonable to believe that the food is the cause of the convulsions in these instances. It is more difficult to know whether the food causes the convulsions by acting simply as a foreign body and in this way producing reflex irritation, or whether it sets up abnormal decomposition or fermentation in the digestive tract, the products of which, being absorbed, bring on the convulsions through toxic irritation of the cerebral centers. The immediate cessation of the convulsions after the emptying of the digestive tract, before sufficient time has elapsed for the elimination of toxic substances from the system, suggests strongly that reflex irritation is more important in these cases than toxic absorption.

TOXEMIA

The convulsions that occur at the onset or in the course of acute diseases are presumably due to the action of toxic substances in the circulation on the cerebral centers. They may, however, be due in part to high temperature. The convulsions which occur not infrequently in whooping cough, however, are not all due to the toxemia of the disease. They may also be due to asphyxia or to cerebral edema or hemorrhage. Convulsions in the new-born infants of uremic mothers may be due to the transmission of the uremic poison from the mother through the placenta. A number of authors attribute considerable importance to the thymus in the etiology of convulsions. I have never seen convulsions as the result of pressure from the thymus. I have seen them in connection with certain severe types of status lymphaticus. In all these cases, however, the babies were seriously ill and the convulsions were only one of the manifestations of the condition. I have never seen single convulsions occurring at long intervals which I thought could be attributed to toxemia from the thymus, and do not think that it need be considered under these circumstances. I have likewise never seen convulsions in infancy or childhood from lead poisoning, although this factor is mentioned by all authors. It should, of course, be kept in mind, nevertheless, as a possible cause.

SPASMOPHILIA

Another common cause of convulsions, which is far more common than is usually appreciated in infancy and sometimes in childhood, is spasmophilia, a condition in which the normal balance between calcium and magnesium on the one side and sodium and potassium on the other is disturbed, so that there is a relative diminution in the proportions of calcium and magnesium and a consequent increase in the irritability of the nervous system. When convulsions are due to spasmophilia, there is often a history of attacks of laryngismus stridulus or tetany. In such cases the mechanical irritability of the nerves is usually increased, as can be shown by trying Trousseau's and Chvostek's tests. In a doubtful case, the presence or absence of spasmophilia can be easily determined by testing the electrical excitability. The appearance of cathodal opening contractions under 5 milliamperes is pathognomonic of spasmophilia, and of anodal opening contractions with less current than that causing anodal closing contractions very strong evidence in favor of it. Although spasmophilia is a very common cause of convulsions, especially in infancy, it is often overlooked or forgotten. It should always be thought of and looked for in every case of convulsions in early life.

CONVULSIONS

It is not necessary to describe convulsions. Every one is familiar with them. Every one is also aware that in epilepsy the typical convulsion may be replaced

V. 192

by a slight stiffening, momentary loss of consciousness, or other similar manifestations. It is common knowledge that when epilepsy is not the cause, convulsive manifestations may vary greatly in degree. Not every one is aware, however, that the epileptic convulsion in early life is very often not characteristic. The aura and initial cry are more often absent than present, and many children do not sleep after them. In fact, it is safe to say that, as a rule, in childhood, there is nothing about any single convulsion to show whether it is epileptic or not. Convulsions due to spasmophilia are no different from convulsions due to other causes. The importance of unilateral or localized convulsions is much less in early life than later. The younger the patient, the less important they are. It is a waste of time, save in exceptional instances, to note whether the attack begins on one side or on the other, or whether one part is more affected than the others. The nervous system of the infant and young child is so irritable that any and all sorts of responses may result from the same stimulus and many different stimuli produce the same response. In general, in early life a convulsion is simply a convulsion, and there is nothing about the severity, the distribution, the onset or the character of the convulsion which shows anything as to its cause. The diagnosis of the etiology can be made only by a careful study of the history, by a thorough physical examination and sometimes only after long observation.

DIAGNOSIS OF EPILEPSY

The chief interest in convulsions and other convulsive manifestations in early life lies in whether or not they are symptoms of epilepsy or whether, if not, they may lead to epilepsy later. I know of no more difficult problem in the field of pediatrics. When the convulsion is the first one and there is some apparent cause for it, such as a high temperature, the evidences of some acute disease, or the history of an indiscretion in diet, it is hardly necessary to consider epilepsy. If evidences of spasmophilia are found, epilepsy may be excluded. If there have been convulsions in the past, the possibility of epilepsy must be considered, even if there have been apparently good causes for the previous convulsions. Again, however, epilepsy may be almost certainly excluded if there are any evidences of spasmophilia. When there is a history of convulsions at intervals, without apparently good causes for the attacks, the chances are in favor of epilepsy. The longer the period which the convulsions have covered, the greater is the probability that they are epileptic. The presence of an aura or of an initial cry is almost certain proof of epilepsy. Their absence does not, however, count much against epilepsy. The occurrence of convulsions at night is in favor of epilepsy. Convulsions not due to epilepsy may produce changes in the brain which later lead to epilepsy. This is certainly true of the convulsions which occur in whooping cough. The history of an injury to the head, followed by convulsions, is somewhat in favor of epilepsy. In general, it is impossible to determine immediately whether a child that has had a number of convulsions at intervals has epilepsy or not. A most thorough examination should be made in all such cases to find out if there are any evidences of an organic cerebral disease or sources of reflex irritation. Such an examination should include a Wassermann test on the blood and spinal fluid, a tuberculin test, a lumbar puncture with an examination of the spinal fluid, as well as examinations of the urine, stools and blood. The stools should be studied not only for evidences of indigestion but also for evidences of parasites. The fundi of the eyes should be examined for evidences of an increase in the cerebral pressure, and every possible location for reflex irritation should be investigated. When all these things have been done, it will sometimes be found that there is a real organic basis for the convulsions, such as syphilis or a cerebral tumor. In others, some possible sources for reflex irritation may be found. In most instances, however, everything will be negative and we shall know as little or as much as we did when we began, and can only wait for time to make the diagnosis.

Minor convulsive manifestations, such as slight local or general twitching and temporary spasms of various sorts, are very common in infancy and are of exactly the same significance as are convulsions. The characteristic carpopedal spasms of tetany are pathognomonic of spasmophilia and have no significance, except that they demonstrate the presence of this disease. No one should mistake the characteristic, single, purposeful and controllable movements of habit spasms for evidences of any serious condition. These minor convulsive manifestations are less common in childhood, but other symptoms having the same significance are not infrequent. Such symptoms are a sudden look of blankness, an instantaneous loss of consciousness, the dropping of some utensil, a fleeting stop in the performance of some action, in speech or attention, and the involuntary passage of a few drops of urine. These manifestations at once suggest petit mal. It is just as difficult to know whether they are or not, as it is to know whether convulsions are epileptic or not. The same careful and complete examination should be made in these instances as when there are repeated convulsions. The results will usually be equally meager. They may go on for months or years and finally cease, they may continue unchanged for many years, or they may change to typical epileptiform convulsions or alternate with them. In general, however, these symptoms are more likely to prove eventually to be epileptiform in character than are repeated convulsions. The diagnosis of epilepsy in childhood, unless the manifestations are absolutely characteristic, as they seldom are, must always be guarded. I have known babies and children to have many convulsions, in one instance about 600, and then be perfectly well for years up to the present time. I have known others, who had had only one or two at the time when they were seen, to become confirmed epileptics. I have known children to have hundreds of attacks like petit mal and then be entirely well. In others they have persisted or changed to typical attacks of grand mal. In general, however, it is unwise to make a positive diagnosis of epilepsy in infancy, while its possibility should always be mentioned in childhood.

There should be no difficulty in distinguishing between attacks of faintness or hysteria and epilepsy in infancy and childhood. In the first place, infants are very seldom faint and still less often hysterical, while children are not often faint and seldom hysterical. Careful observation should prevent any mistakes, in the few instances in which they are faint or hysterical.

PROGNOSIS OF CONVULSIONS

Death rarely occurs in or as the result of a single convulsion. This is especially true of the convulsions of spasmophilia. The younger and more feeble the individual, however, the greater is the danger. A single convulsion is most dangerous when it occurs in whooping cough or in the course of diseases of the larynx or lungs. Moreover, the cerebral congestion may be so great in any convulsion that it may result in a hemorrhage, which will later cause feeblemindedness, epilepsy or spastic paralysis. Death is unusual even when there is a series of convulsions in rapid succession and lasting many hours. It may, however, occur as the result of exhaustion, even in strong babies or children. Repeated convulsions, reflex in origin, may apparently in time develop a "bad habit of the brain," and lead to epilepsy. The prognosis for recovery in epilepsy in childhood is better than in later life; as to mental impairment, worse.

TREATMENT

At the onset of a convulsion there is cerebral anemia, which is quickly followed by venous hyperemia. This has always developed by the time the physician has reached the patient. The immediate indication is, therefore, to relieve cerebral hyperemia. This may, perhaps, be accomplished by the application of heat or counterirritants to the surface of the body, heat to the feet and cold to the head. At any rate, it affords a rational explanation for the popularity of these household measures. They certainly can do no harm, even if they do no good. It must be remembered, however, that the temperature of the bath should not be over 100 F. It must also be remembered that, if the convulsion is due to the action of a high temperature, a hot bath will do harm and that it is a cold bath to bring down the temperature which is needed. Ether and chloroform are more effective, however, for the immediate relief of a convulsion.

As soon as the emergency allows, the attempt should be made to determine the cause of the convulsion, in order to remove it, if possible. The temperature should be taken at once, and in the rectum. A careful history should be taken, special attention being paid as to whether there have been previous convulsions, recent exposure to contagious diseases, indiscretions in diet or manifestations of spasmophilia. A careful and complete physical examination should then be made, including the tests for the increased mechanical excitability of spasmophilia. The urine should be examined, if possible, but, at this age, uremia is one of the rarest causes of convulsions. If it is the cause, the physical signs of disease of the kidneys—edema, ascites and pallor—are almost always marked, making the diagnosis easy. If no definite cause for the convulsion is found, it is almost always safe and advisable to wash out the lower bowel and to give a cathartic. It is usually not advisable to give an emetic or to wash out the stomach, as these procedures are liable to start up another convulsion, in which food may be inhaled and bronchopneumonia develop as the result. When the patient does not relax after a convulsion or the convulsions are repeated, it is advisable to give bromids or bromids and choral by the mouth or rectum. My feeling is that the doses of the bromids usually recommended are rather small, and those of chloral too large. Bromids are a safe drug, and the limit between the physiologic and toxic doses is a wide one. Chloral is a rather dangerous drug, and the limit between the physiologic and toxic doses is a narrow one. There is no objection to the use of morphin subcutaneously when there is a series of convulsions. The tolerance of babies and young children for morphin is, however, relatively low, and it must, therefore, be used cautiously. Oxygen is sometimes of use when the convulsive state is prolonged and cyanosis continuous.

When, in infancy, convulsions are due to spasmophilia, they almost always disappear promptly when the infant is put on human milk. If this is impossible, the bowels should be cleaned out at once and a carbohydrate given. Whey is contraindicated because of the large amount of salts which it contains. After a few days or, at most, a week, milk must be added in some way, best in the form of precipitated casein and high percentage cream in order to avoid the salts in the whey. It is also worth while to give calcium in some form. The most satisfactory is desiccated calcium chlorid, about 1 dram (4 gm.) a day in divided doses. It may also be worth while to give cod liver oil with the hope that it may favor the retention of calcium. Neither the calcium salts nor cod liver oil has been very efficient in my hands. Parathyroid extract is useless. It is important to remove all sources of infection, as they seem to predispose to the development of the disease. The treatment of spasmophilia in children is along the same lines. They cannot, of course, be given breast milk, but can, however, be given a more varied diet than babies, planned to contain small amounts of sodium and potassium and larger amounts of calcium and magnesium.

In those instances in which children have convulsions from time to time and in which the diagnosis of epilepsy is not warranted, little can be done, except to look after the general health of the child, regulate its diet carefully, be sure that its bowels are kept open and that it drinks plenty of water, and remove, as far as possible, all causes of reflex irritation.

Little more can be done, if the convulsions are certainly or possibly epileptic. In such cases it is wise to cut broths and beef juice out of the diet and to limit the protein intake. They may have the choice of meat, fish or egg once daily. Red meats are no more harmful than white meats or fish. Milk may be taken freely. The bowels must be kept well open and the kidneys acting freely. Great discretion must be exercised in the use of the bromids in epilepsy in childhood, as the by-effects of the drug are often worse than the disease. Large doses, given continuously, not only disturb the digestion and prevent proper physical development but seriously interfere with the development of the mind. I have seen a number of children in whom the mental impairment and general malnutrition had been attributed to epilepsy, when they were really due to the large doses of the bromids which they had been taking and disappeared promptly when the bromids were omitted. In general, I believe that it is wiser not to give bromids to children, unless the convulsions are quite frequent and severe. Phenobarbital (luminal) apparently does not have the same depressing action on the mental and physical development as do the bromids, while it does have a restraining action on the disease. In the limited experience which I have had with it, it has proved itself useful, but has not justified all the claims which have been made for it.

483 Beacon Street.

GIARDIASIS

CAROLINE McGILL, M.D.
BUTTE, MONT.

Giardia intestinalis was long considered a nonpathogenic inhabitant of the bowel. Even recently Kofoid, Kornhauser and Plate [1] found this flagellate in 6 per cent. of 1,500 healthy American soldiers. Maxcy [2] obtained *Giardia* in the stools of 20 per cent. of 89 children examined. In only one of these children was there bowel disturbance. In routine stool examination at Murray Hospital in the last ten years, I have encountered *Giardia* in nine patients who had no symptoms referable to the bowel. These patients showed only a few organisms at any time. In three cases in which there was severe intestinal disturbance, nothing but *Giardia* could be found to account for the trouble. In these there were myriads of *Giardia* in the stools. Many clinical observations the last ten years have established *Giardia* as the probable cause of some severe chronic diarrheas.

Kennedy and Rosewarne [3] found *Giardia* the cause in twelve out of 136 cases of dysentery. Fantham and Porter,[4] in 1,300 patients with diarrhea, found 187 cases caused by *Giardia*. The condition is fairly common in this country. Logan and Sanford [5] have described sixty-six cases at the Mayo Clinic. Mantovani,[6] in 1919, described cases with severe symptoms. One man in robust health had occasional attacks of pain above the umbilicus, and diarrhea, with from thirty to forty stools a day, containing many organisms. There was an eosinophilia of 10 per cent. One woman, aged 50, had a severe diarrhea of three months' duration, rebellious to all treatment, with enormous numbers of *Giardia* in the stools, and an eosinophilia of 8 per cent. She died from progressive debility. Her brother had died several months before from a similar condition.

Carles [7] emphasizes the chronic and tenacious character of *Giardia* enteritis. Some of his patients had been treated for intestinal tuberculosis. One young man had had giardiasis since childhood, and both mental and physical development were retarded. Labbé [8] reports cases of rebellious enteritis simulating tuberculosis. Cade and Hollande [9] describe in detail ten cases of chronic diarrhea due to *Giardia*. The diarrhea may come on either gradually or acutely. Formed stools are rare; the colon is tender; the patient is pale and often has a slight rise of temperature in the evening. In one case, the fever was high at times. There were no striking blood changes, and there was no blood or pus in the stools. Cress [10] reports a case of appendicitis which he thinks was caused by *Giardia*. Fantham and Porter,[4] at postmortem, found distortion of intestinal epithelial cells due to the suction of *Giardia*. Though diarrhea is usually present, Lyon [11] reports a case in which there was rather extreme constipation. The patient in Case 3 in this series was constipated.

OCCURRENCE

The motile forms of *Giardia* are found in the duodenum and jejunum. Smithies reports them present in the gallbladder at operation. Using the duodenal tube, Lyon,[11] in three cases, found actively motile forms in the duodenal contents, and *Giardia* cysts in the stools. I found myriads of motile forms in the duodenal contents in Case 3. In the lower bowel, the organisms are usually encysted. When the diarrhea is extreme, or after purging, motile organisms are present. In Case 2, at times, there were very numerous motile forms in the stool, without catharsis.

TREATMENT

Lyon says, "The most striking thing in the review of the literature is the fact that up to 1917 absolutely no successful method of treatment had been suggested." I think all who have tried to treat the condition will emphasize this by saying that up to the present time there has been no successful method of treatment. Carles [7] considered sulphur, from 2 to 6 gm. (33 to 92 grains) a day, the best treatment. Carr and Chandler [12] used sulphur, with no effect on the condition. Mayer [13] reports one case which he considered cured after one dose of emetin. Carr and Chandler [12] found no effect from either emetin hydrochlorid or ipecac. That has been my experience. In Case 1, the patient received repeated injections of emetin and ipecac tablets over long periods, with no decrease in the numbers of *Giardia* present. Cade and Hollande [9] thought that from 0.1 to 1.5 gm. (1½ to 23 grains) of hydrochloric acid taken daily in albuminous water for from twenty to thirty days cured one patient. In two other cases, it did no good. Mantovani [6] says there is no specific, but that arsphenamin has the best record, not for its direct action, but because it improves the general condition. Labbé [8] says that giardiasis is much harder to cure than amebiosis; that there is no drug that is curative. Yakimoff [14] and co-workers tested the effect of arsphenamin on giardiasis in white mice. They found that 1 c.c. (16 minims) of neoarsphenamin in from 1:300 to 1:1,000 solution for every 20 gm. (309 grains) of weight completely cured infected animals. Carr and Chandler report an apparent cure after four intravenous injections of neoarsphenamin.

I tried neo-arsphenamin in only one patient (Case 2). The patient received one injection, of 0.3 gm. (4½ grains) and, following that, three injections of 0.6 gm. (9 grains) each, in one month, with some temporary relief of symptoms, but with no decrease in the number of cysts. Later this patient was given benzyl benzoate in full doses, and she has remained free from symptoms for nine months, though *Giardia* is still abundant.

Unless a case is observed over several months, it is impossible to tell the results of treatment. There is great normal fluctuation in the number of cysts in the stool, as has been shown by Miss Porter.[15]

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REPORT OF CASES

Case 1.—Mrs. H., aged 41, under observation from January, 1918, until May, 1919, complained of diarrhea and severe abdominal pain. Her health was excellent until the present illness. This began as a mild diarrhea, ten years previously. Seven years previously she had a simple goiter removed, and, because of abdominal tenderness, the appendix was also removed. Four years previously the diarrhea and abdominal pain became much worse. She had from two to four unformed stools a day, containing blood and mucus. The diarrhea and pain had continued, but for the past three years there had been no blood in the stool. There had been loss of weight and extreme fatigability. Three years previously, at one of the best clinics, the uterus, containing small fibroids, was removed in the hope of relieving the abdominal pain. General exploration showed the rest of the abdomen normal. The operation in no way relieved her.

The patient was thin and sallow. There was a slight simple goiter. Marked tenderness was noted along the cecum and ascending colon. Fluoroscopic and roentgen-ray examination after a barium meal revealed a small contracted colon like that of chronic colitis; otherwise the digestive tract was normal. The stool contained enormous numbers of *Giardia* cysts, embedded in mucus. Once, after catharsis, motile forms were found. The patient was given emetin in heavy dosage both by subcutaneous injection and in keratin coated capsules by mouth, for two months, with no effect. Quinin in enemas and by mouth was no more helpful. Methylene blue and thymol gave like results. Coal oil enemas decreased the tenderness, but not the number of *Giardia*. At times, the bowel pain was so great that starch and laudanum enemas were necessary to give relief. The patient was kept on a small residue high caloric diet, and gained weight and improved in general health; but the bowel condition with *Giardia* persisted.

Case 2.—Miss T., aged 21, who was first seen June 28, 1920, had good health until June, 1920, when she began suddenly to have severe diarrhea with extreme tenesmus, and with some blood in the stools. The diarrhea had continued, but since the first week there had been no blood passed. There were from eight to ten unformed stools a day. The patient had lost 10 pounds (4.5 kg.) in weight.

The general examination was negative except for tenderness over the colon. The appendix had been taken out four years before. There was no fever at any time. There were enormous numbers of *Giardia* cysts in the stool, but no blood or pus. The patient was given four injections of from 0.3 to 0.6 gm. (4½ to 9 grains) of neo-arsphenamin at weekly intervals. The general condition improved. There was marked diminution in the number of stools, down to one or two a day, but there were still large numbers of *Giardia* present. In August, the patient was given benzyl benzoate in 15 minim (0.92 c.c.) doses, three times a day. There has been absence of diarrhea since then. The patient feels well, is gaining weight, and the general condition has improved; but there are still *Giardia* in the stools.

Case 3.—Mr. D., aged 23, when first seen, December, 1920, complained of indigestion and constipation, with a burning pain in the epigastrium, developing three hours after meals, and relieved by eating. There was some pain in the back below the right shoulder blade; in fact, the history was highly suggestive of duodenal ulcer. Symptoms had been present for four months.

The patient's color and general nutrition were excellent. There was tenderness over McBurney's point and in the upper right quadrant. Roentgen-ray and fluoroscopic examination after a barium meal revealed a normal stomach. The bowel was normal except for an appendix which remained filled for forty-eight hours. The stool showed large numbers of *Giardia* cysts. The duodenal tube, passed for the examination of bile, showed enormous numbers of *Giardia* in both the duodenal contents and the bile from the gallbladder. The appendix was removed by Dr. T. C. Whitherspoon. It contained neither encysted nor motile forms of *Giardia*. The epithelium was perfectly normal. At operation the gallbladder to all appearances was normal. There was no evidence of gastric or duodenal ulcer. The patient was sent home with instructions as to diet to control the constipation, and was put on benzyl benzoate. Repeated examinations of the stool have always shown *Giardia* present. The stomach symptoms have improved.

CONCLUSIONS

1. Giardiasis is a frequent cause of severe diarrhea, with much impairment of general health.
2. In place of diarrhea, there may be constipation.
3. Practically all patients have abdominal pain, which at times is very severe.
4. No treatment yet suggested has been successful in ridding the bowel of *Giardia*.
5. *Giardia* may invade the gallbladder, and when there, and in large numbers in the duodenum, may give symptoms resembling duodenal ulcer.

A CASE OF TRUE PNEUMOTYPHUS

H. C. HERRMAN, M.D.
NEW YORK

The textbooks tell us that bronchitis is the most common complication at the onset of typhoid fever—in fact, most observers regard it as a real symptom of the infection. But besides a comparatively mild inflammation of the bronchi, we can have a more extensive involvement of the pulmonary system—an actual pneumonia. Of this complication it is possible to have a lobular form or bronchopneumonia, a lobar type, or a hypostatic congestive condition, all of these usually occurring during the course of the typhoid.

Very rarely, we have a form of pneumonia which occurs at the outset of typhoid fever in which it remains doubtful whether we had a pneumonia patient who developed typhoid, or a typhoid case with implication of the lungs—the so-called pneumotyphus, first described by the Germans.

Therefore, a description of one of these types which came under our observation might well be added to the literature on the disease.

REPORT OF CASE

P. P., aged 19, a French seaman, was admitted to the medical wards of the Broad Street Hospital, in the service of Dr. Francis Huber, July 7, 1921, from his ship, having been ill for five days. The onset was characterized by a chill, pain in the side, weakness and fever. The personal and family histories had no bearing on the case.

The temperature hovered about 104, pulse 80 to 90, respiration 20. Physical examination disclosed dulness on percussion, tubular breathing and bronchophony over the entire middle lobe of the right lung. A diagnosis of lobar pneumonia was therefore made. There was no expectoration, and typing of the sputum for the pneumococcus was impossible. Later the same day, another sailor was admitted from the same ship with a typical lobular pneumonia.

In the first case, blood count revealed 11,520 leukocytes, with a differential count of: polymorphonuclears, 65 per cent.; lymphocytes, 34 per cent.; large mononuclears, 1 per cent. The urine was negative.

The signs remained constant until the fifth day (July 13), when resolution started, as shown by softening of the consolidation, with many moist râles. In spite of this, however, the temperature maintained its fastigium of between 103 and 104. Pulse and respiration still were normal, with some element of dicrotism in the former. Stools were normal, one or two daily, always formed.

On the tenth day (July 17) a discrete, punctate macular rash, scattered over the abdomen and back, made its appearance. It was not hemorrhagic, and disappeared on pressure. There was also some slight soreness and distention of the right side of the abdomen.

A provisional diagnosis of typhoid fever was made, based on the clinical signs, the elevated temperature, slow dicrotic pulse, the tympanitic abdomen with slight tenderness, and the roseola. The spleen was not palpably enlarged at any time.

Treatment instituted was purely supportive and dietetic, the Coleman high caloric diet being used, and about 3,000 calories being fed daily. There was no diarrhea at any time, and the only disturbing factor was some vomiting when too much food was fed—on those days when the diet evaluated more nearly 3,500 calories.

Laboratory findings bore out our clinical diagnosis by a positive Widal reaction for typhoid and by the isolation of the typhoid bacillus from the stools.

On the fifteenth day after admission (July 22), the temperature began to fall by lysis, reaching 98 on the thirtieth. At this time, unfortunately, the patient's neighbor in the ward offered him some raw fruit, which he ate. Immediately the temperature shot to 104.4, pulse rose to 100, and he suffered a typical recrudescence of his illness.

On the night of August 11, or the twelfth day of the relapse, the temperature fell by crisis, reaching normal, where it remained with but occasional and inconsequential flighty elevations. A faint systolic murmur, not transmitted, was audible at the mitral area, but this had almost entirely disappeared before discharge.

On the eleventh and twelfth days of normal temperature, successive stool specimens proved free of typhoid bacilli, and precautions were discontinued. Convalescence was uneventful, and the patient was discharged cured, September 15.

COMMENT

Here we have a case of typhoid fever complicated by a relapse of twelve days' duration, which was ushered in by a typical lobar pneumonia. Osler [1] numbers but three in his entire series of cases in which lobar pneumonia occurred at the outset—the "pneumotyphus of the Germans." His classic description fits our case exactly. This type of pneumonia is the most infrequent one of this class of respiratory complications, the other and more common ones being the intercurrent lobar pneumonia, the hypostatic pneumonia, and the bronchopneumonia which occasionally follows the initial and not unusual bronchitis.

Klein and Torrey [2] of the University of Pennsylvania reported a series of six cases of paratyphoid fever, four of which were associated with severe pulmonary disturbances during the course of the infection. They cite a case of a frank lobar pneumonia, in which the lungs entirely cleared but the fever persisted. The Widal reaction then showed a positive agglutination for *Bacillus paratyphosus* B.

Our case was similar in that it showed a frank lobar pneumonia, in which the lungs cleared but the fever persisted. But the Widal test in our case showed a positive agglutination for the true *Bacillus typhosus* in all dilutions.

129 Broad Street.

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Mental Hygiene in Industry.—Practical measures for a mental hygiene of industry call for three types of workers, the psychiatrist, the psychologist, and the psychiatric social worker. The psychiatrist is the best specialist we yet have in knowledge of temperament and conduct; the psychologist possesses some proved methods of measuring mental capacity; and the psychiatric social worker contributes knowledge of the family and social conditions that help form the personality of an individual.—M. C. Jarrett, *Hospital Social Service* **36**:362 (May) 1921.

THE OVARY AND THE ENDOCRINOLOGIST

ROBERT T. FRANK, A.M., M.D.
DENVER

The ovary exerts a powerful influence on both the primary development of the female sex organs and their function during sexual life. Whether other glands of internal secretion affect the sexual sphere, except secondarily, that is, by intermediation of the ovaries, is more than doubtful. For example, the claims of Goetsch [1] that anterior lobe pituitary extract stimulates the growth of the sex organs was disproved by me [2] in 1919 and more recently again by Sisson and Broyles.[3] Yet this supposititious pituitary influence continues to crop out in the literature and in the "therapeutic" advertising pamphlets with which the medical profession is bombarded.

No matter how often a plausible appearing claim is shown to be wrong, if it appeals to the imagination or meets with the desire of the therapeutist for new and dramatically effective agents, the falsity continues to be accepted. The results of incomplete experiments, isolated empiric observations and fantastic hypotheses are thrown together to form a glittering and ever changing kaleidoscopic picture. A new terminology is being coined. Shotgun mixtures containing the "fifty-seven varieties" are being circulated. What is to be the end of this seemingly uncontrolled wave of mysticism, hysteria, commercialism and credulousness? Does it betoken the birth of another medical cult, to be controlled by the charlatan and self-seeker, and which, at least for the moment, will carry along with it the overoptimistic, the uncritical and the untrained members of our profession? If this must be the outcome, the sooner the break occurs the better; then all hail to the "endocrinopractor"! The profession is well rid of him, but let us at least try to save the unwary, whom he is at present deluding and perverting.

In what follows I present an analysis of the influence exerted by the ovaries on the genital sphere and on the body as a whole.

This analysis includes: (1) the developmental period; (2) the period of passive growth before puberty; (3) pubescence, with its local generative changes and the development of the secondary sex characters, and the menstrual cycle; (4) pregnancy.

THE DEVELOPMENTAL PERIOD

Observation on true hermaphrodites [4] has shown that the genital system of both sexes may be represented in one individual. The amount of development of the male or female duct systems, in such an individual, is quantitatively dependent on the predominance of the ovarian or testicular constituents in the bisexual gland (ovotestis). The secondary sex characters, among which are included the bony pelvis, the larynx and voice, breast, hair distribution and psyche, may also be preponderantly of the male or female type

1. Goetsch, E.: The Influence of Pituitary Feeding upon Growth and Sexual Development, Bull. Johns Hopkins Hosp. **27**: 29 (Feb.) 1916.
2. Frank, R. T.: Influence of Pituitary Extracts on the Genital Tract, J. A. M. A. **73**: 1764 (Dec. 6) 1919.
3. Sisson, W. R. and Broyles, E. N.: Influence of Anterior Lobe of Hypophysis on the Development of the Albino Rat, Bull. Johns Hopkins Hosp. **32**: 23 (Jan.) 1921.
4. Lacassagne, A.: Gynéc. et obst. **1**: 273, 1920.

or incongruously mixed. The true hermaphrodite is bisexual. Complete physiologic potency of both sex components, however, does not occur; more often complete sterility exists.

These findings, together with the facts gleaned from experimental transplantation of the gonad of one sex into an individual of the opposite sex,[5] with the result that especially the secondary sex characters change, shows that the development of the sexual duct systems (wolffian and müllerian ducts) and of the secondary sex characters are qualitatively and quantitatively governed by the sex glands.

THE PERIOD OF PASSIVE GROWTH

The period of passive growth normally begins when the genitals are fully formed in the fetus, and extends until puberty sets in. During these years the genital tract is undergoing slow, progressive increase in size. The secondary sex characters toward the end of this period gradually became more apparent. The ovaries throughout the years of infancy and childhood harbor growing and ripening follicles, but quantitatively, follicle ripening is still insufficient to initiate puberty.

In rare instances, premature puberty occurs in infancy.[6] Diverse etiologic causes have been noted, among which are teratomas of the pineal gland, tumor of the suprarenals, and ovarian neoplasms. In Harris'[7] case, in which menstruation and other signs of adolescence were evident at 5 years of age, removal of the ovarian new growth was promptly followed by disappearance of all these premature phenomena. Diverse causes, therefore, can accelerate the ovarian action with resultant premature pubescence.

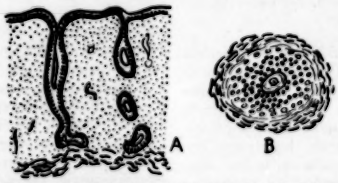

Fig. 1.—Stage of rest, extending from one to four days after the end of menstruation. *A*, thin uterine mucous membrane, with straight glands which are far apart. The stroma is of connective tissue type. *B*, graafian follicle from the ovary, maturing, but as yet without follicular cavity.

Operative removal of the ovaries during the period of passive growth causes the rest of the genital tract to atrophy; the secondary sex characters fail to develop, and an individual of neuter or eunuchoid type results.[8]

Thus we see that the ovaries control the growth and functional activity of the sexual tract, and that exceptionally the sex function can be activated long before the normal time. We do not know what agency brings about puberty. Such influences as have been ascribed in the literature to the involution of the thymus or pineal gland, to pituitary activity, etc., are purely hypothetic.

THE PERIOD OF PUBERTY AND SEXUAL ACTIVITY

Attention has been wrongfully focused on the most visible phenomenon of puberty—menstruation. But this bleeding may never occur, although the individual is nubile, fertile and bears children. I have encountered two cases of this character. In India, infant marriages are celebrated in order that pregnancy may supervene and thus suppress even the first menstruation.

Of more importance as a criterion of puberty is the full development of all the attributes of femininity. From the point of view of fertility a roomy pelvis, a well developed duct system (vagina, uterus, tubes), and normal ovaries are essential. The secondary sex characters play an important rôle, good mammary glands assuring nutrition to the progeny, and the sex allures (at least among primitive races) adding to the likelihood of impregnation.

The so-called menstrual or monthly cycle is due to ovarian action on the uterus. As far as can be determined at present, only one factor comes into play, and that is the development, growth and evolution of the ovarian follicle, which begins as the primordial follicle, is called a graafian follicle as it ripens, and, after ovulation or bursting has taken place, completes it cycle of existence as the corpus luteum.

Throughout these stages the follicle produces a hormone which directly influences the uterus. The amount of uterine reaction appears to depend on the quantitative output of the secretion. Only during the early active stage of existence of the corpus luteum is an additional influence exerted on the uterus. This special function which facilitates nidation, i. e., the embedding of the ovum, will be referred to later.

Stage of Rest.—The hormone developed by the small follicle or follicles is not sufficient to produce any uterine change. Hence at this stage, which in general corresponds to the first four to six days after menstruation, the uterine mucous membrane is thin and pale. The uterine glands are straight, far apart and inactive (Fig. 1).

Stage of Secretory Activity (premenstrual or pregravid stage).—A ripening graafian follicle is found in the ovary at the beginning of this stage. When ovulation takes places, which may be any time between the fifth to the twentieth day after the onset of the last menstruation, a recent corpus luteum forms in the follicle cavity. The finer changes which characterize the development of the corpus luteum are readily accessible in the literature.[9]

As the hormonal secretion from the ovary increases, the entire uterus, but especially its mucosa, becomes more hyperemic and turgid. The mucosa is now thick, pink, vascular and succulent. The uterine glands are tortuous, corkscrew-like in their course, closely packed, and filled with secretion. The mucosa at this time cannot be distinguished from the decidua of the early months of pregnancy, and Fränkel[10] is correct in calling it the pregravid rather than the premenstrual condition, because the change occurs in order to enable the ovum to embed. Only if the ovum fails to embed does menstruation occur. This makes menstruation equivalent to an abortion of an unfertilized ovum.

Menstruation.—If impregnation does not take place, the corpus luteum rapidly loses its functional power over the mucous membrane of the uterus, becomes inactive physiologically, and regresses. In consequence of the withdrawal of the stimulating action of the corpus

5. Steinach: Centralbl. f. Physiol. **25**, No. 17, 1911; Arch. f. d. ges. Physiol. (Pflüger's) **144**: 71, 1912.
6. Lenz, T.: Vorzeitige Menstruation, Geschlechtsreife und Entwicklung, Arch. f. Gynäk. **99**: 67, 1913.
7. Harris, R. H.: Surg., Gynec. & Obst. **24**: 604 (May) 1917.
8. Tandler, T., and Grosz, L.: Die biologische Grundlage der sekundären Geschlechtscharaktere, Berlin, J. Springer, 1913.
9. Meyer, R., and Ruge: Centralbl. f. Gynäk. **37**: 50, 1913. Schroeder, R.: Arch. f. Gynäk. **101**: 1, 1914. Miller, J. W.: Ibid. **101**: 569, 1914. Frank, R. T.: The Clinical Manifestations of Diseases of the Glands of Internal Secretion in Gynecological and Obstetrical Patients, Surg., Gynec. & Obst. **19**: 618, 1914.
10. Fränkel, L.: Liepmann's Handbuch der Frauenheilkunde, Berlin, F. C. W. Vogel **3**: 92, 1914.

luteum hormone, the much hypertrophied uterine mucosa undergoes degeneration and disintegration.

In the later part of the secretory stage the mucous membrane was already divisible into three layers, an outer or superficial, compact layer, a middle layer riddled with glands, the spongy layer, and the deepest or unchanged basal layer (Fig. 2). With failure of nidation and withdrawal of the ovarian secretion, the two superficial layers of the uterine mucosa, known as the functional layer (the compact and spongy layers), rapidly undergo necrosis and disintegration, and are cast off.[11] Usually they disintegrate into minute fragments unnoticed in the menstrual blood; exceptionally, when the uterine contractions are premature and violent, they are expelled in larger complexes (dysmenorrhea membranacea). The interior of the uterus is thus to a great degree denuded of its covering and forms a large wound surface (Fig. 3 *B*). Through this wound blood is poured out into the uterine cavity. When the source of bleeding is from opened up blood vessels the blood can clot; where the blood seeps through the necrotic tissues still adherent to the basal layer, it loses its coagulability.[12] The end of menstruation occurs when regeneration covers the denuded areas and when the excessive uterine hyperemia disappears.

Menstruation, therefore, is analogous to abortion in several ways. It is due to the casting off of the (unfertilized) ovum. The hemorrhage is comparable to the lochial flow, and each menstruation is followed by a period of repair.

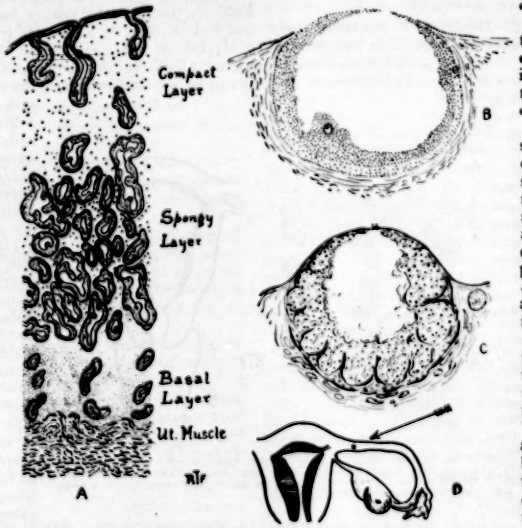

Fig. 2.—Stage of secretory activity, extending from the fourth day after the end of menstruation until onset of the menses, or continuing throughout pregnancy. *A*, uterine mucous membrane much hypertrophied and plainly divisible into three layers. In the middle layer the glands are back to back. The stroma of both superficial layers shows decidual change. The basal layer is unaltered. *B*, ripening graafian follicle ready to rupture. Ovulation takes place during the first or second week following menstruation. *C*, corpus luteum during its active stage. *D*, arrow points to the ovum, which is traversing the tube while the uterine mucosa is preparing for its reception.

PREGNANCY

Pregnancy results when an ovum is fertilized and becomes attached, normally in the interior of the uterus, abnormally in the tube, ovarian follicle, peritoneum, etc.

In the human being, ovulation is supposed to occur sometime between the fifth and the twenty-fifth day after the onset of the last menstruation (i. e., from one to twenty days after cessation of bleeding). Conjugation of the sex cells normally takes place in the tube shortly after coitus, but according to analogous observations made on animals, from eight to ten days elapse before the fertilized ovum reaches its point of embedding.[13] Thus the impregnated ovum reaches the uterus when the uterine mucosa is in the later secretory stage.

The fertilized ovum has the power to cause the corpus luteum to persist, and consequently the still active corpus luteum secretion prevents necrosis and destruction of the lining of the uterus. Moreover, the fetal coverings (trophoblast, later the placenta) elaborate a substance which has an action identical with that of the corpus leteum.[14]

The combined influence of these hormones accounts not only for the persistence of the decidua but also for its exaggerated development.

Even if the implantation of the ovum is extra-uterine, the uterine decidua persists throughout the period of pregnancy.

The special and transitory action of the corpus luteum which sensitizes the uterine mucous membrane in such a fashion that after the occurrence of trauma a marked production of decidual and other cells, such as occur normally only in the maternal (basal) layer of the placenta, takes place, is of importance in insuring a favorable nidus to the ovum.[15] The fertilized egg acts as a foreign body, burrows by lytic action into the uterine decidua, and produces the maternal reaction which assures nutrition and blood supply. Consequently, early removal of the corpus luteum produces abortion.

In the human being the yellow body appears essential at most during the first six weeks.[16]

Furthermore, during the period in which the corpus luteum is active, which, if impregnation does not occur, is for only a week or more, but if pregnancy supervenes occupies ten months, no ovarian follicles attain full ripeness. Their growth is interfered with and they early undergo atresia.[15]

11. Schroeder, R.: Ueber das Verhalten der Uterusschleimhaut zur Zeit der Menstruation, Monatschr. f. Geburtsh. u. Gynäk. **39**: 3, 1914. Die Pathogenese der Meno. u. besonders der Metrorrhagien, Arch. f. Gynäk. **110**: 633, 1919. He believes that absence of corpus luteum and presence of many ripening follicles cause persistent mucosal hyperplasia, thrombosis and localized areas of necrosis. From these and the hyperemia comes the bleeding.

12. Meyer-Rüegg: Die Vorgänge in der Uterusschleimhaut während der Menstruation, Arch. f. Gynäk. **110**: 274, 1919.

13. Grosser: Ovulation und Implantation und die Funktion der Tube beim Menschen, Arch. f. Gynäk. **110**: 297, 1919.

14. Frank, R. T.: The Placenta Regarded as a Gland of Internal Secretion, Surg., Gynec. & Obst. **25**: 329 (Sept.) 1917; "Alleged Placental Functions," Correspondence, J. A. M. A. **74**: 47 (Jan. 3) 1920.

15. Loeb, Leo: The Experimental Production of the Maternal Placenta and the Function of the Corpus Luteum, J. A. M. A. **53**: 1471 (Oct. 30) 1909.

16. Essen-Möller: Centralbl. f. Gynäk. **28**: 869, 1904.

THE INTERSTITIAL GLAND

The foregoing analysis covers all the phenomena normally occurring in the sexual sphere. No reference has been made to the "interstitial gland," because, as again has been lately emphasized by Robert Meyer,[17] no such structure exists in the human being. In animals it is present in some and absent in other species. No valid evidence has been adduced to show a function for this "gland."

METABOLISM

Much has been written about the effect of castration on the basal metabolism. Murlin and Bailey[18] review the subject and show that castration produces no marked change. Further investigation along these lines is imperatively required.

OVARIAN EXTRACTS

Iscovesco,[19] Aschner,[20] Herrmann,[21] Frank in conjunction with Rosenbloom,[22] Lee and Giese have shown that the corpus luteum contains lipoidal bodies which produce uterine hyperemia and rapid hyperplasia of the musculature and mucosa of this organ. The breasts are also strongly stimulated.

In May, 1917, assisted by Giese, I performed the following as yet unpublished experiments.[23] Since then opportunity to continue the work has been lacking.

A quantity of follicle fluid, obtained by puncturing ripening follicles from the ovaries of cows, was collected. In the one series the ovaries were derived from nonpregnant animals, in the second from those of pregnant ones. Two virgin rabbits were injected subcutaneously in each series with 1 and 2 c.c., respectively, of the follicle fluid daily for ten doses. In all four animals, well marked hyperplasia of the uterus was noted, the material from nonpregnant animals being the more effective.

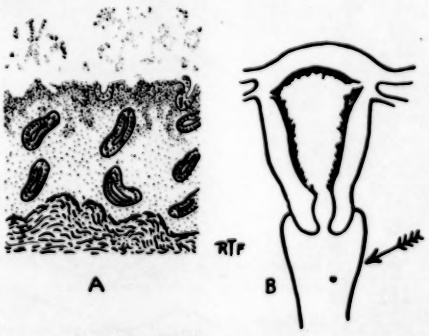

Fig. 3.—*A*, uterine mucosa during menstruation. The functional layers have exfoliated. The basal layer remains. It forms a ragged wound surface. *B*, arrow points to the unfertilized ovum, which is being expelled though the vagina.

Wintz[24] was unable to obtain similar effects. His dosage appears to have been insufficient. He and Seitz and Fingerhut[25] assert that they separated two bodies from the ovary, one, "lipamin," which apparently acts like the lipoid obtained by other authors, and a "luteolipoid" which increases the coagulability of the blood and "inhibits menstruation." These products are being exploited commercially.

Pharmacologic researches, therefore, show that the follicle as well as the corpus luteum secretion can maintain the growth and nutrition of the uterus. In large dosage, hypertrophy of uterine muscle and mucosa takes place. The external genitals and mammary glands are also stimulated. These reactions are specific.

Such other properties as vasoconstriction and dilatation, and anticoagulant and coagulant action, which have been ascribed to corpus luteum extract, are nonspecific and are shared by many tissue extracts.

ABNORMAL OVARIAN ACTION

There is evidence to support the statement that the amount of sex equipment is quantitatively dependent on the gonad. The oversexed woman, accordingly, has more ovarian secretion than her frigid sister. Evidence that homosexuality has an anatomic basis, and is dependent on a bisexual gonad, is accumulating.

Hypoplasia of the female duct system (vagina, uterus, tubes) results from insufficient ovarian action. It can be induced artificially by irradiating the ovaries and thus interfering with follicle ripening. Clinically, congenital and acquired hypoplasias which include many cases of amenorrhea, functional dysmenorrhea and sterility are common.

Hyperplasia of the genitals results from excess ovarian action. Such instances as premature puberty are striking examples. Clinically these disturbances most often manifest themselves as menorrhagia or metrorrhagia. The uterine change may include myometrial or mucous membrane hyperplasia or a combination of the two. The excessive bleeding can be due to increase of pelvic hyperemia, to impaired muscular contractility and to excessive menstrual exfoliation. Schroeder[11] has found absence of a corpus luteum and presence of many ripening follicles in some of these cases. His results are not convincing.

The present tendency which seeks to include all menorrhagias and metrorrhagias in the functional group is fallacious. Bleeding may be due to systemic causes (heart, and pulmonary and kidney diseases), to local inflammations (tubal), and to uterine neoplasms (fibroids, cancer). Hence expert opinion, at times assisted by diagnostic curettage (microscopic examination of curettings!), is more often needed than an "endocrine prescription."

OVOTHERAPY

This leads me to state that today we have no better ovarian extract on the market than we had in 1910 when I first discussed this subject.[26] The commercial preparations are "degreased" or "defatted" and therefore deprived of such minute doses of the active prin-

17. Meyer, Robert: Beiträge zur Lehre von der normalen und Krankhaften Ovulation und der mit ihr in Beziehung gebrachten Vorgänge am Uterus, Arch. f. Gynäk. **113**: 259, 1920.
18. Murlin, J. R., and Bailey, H.: Surg., Gynec. & Obst. **25**: 332 (Sept.) 1917.
19. Iscovesco, M. H.: Compt. rend. Soc. de biol. **72**: 104, 1912; Rev. de gynéc. **22**: 160, 1914.
20. Aschner, B.: Arch. f. Gynäk. **99**: 534, 1913.
21. Herrmann, E.: Monatschr. f. Geburtsh. u. Gynäk. **41**: 1, 1915.
22. Frank, R. T., and Rosenbloom, J: Physiologically Active Substance Contained in the Placenta and Corpus Luteum, Surg. Gynec. & Obst. **21**: 646, 1915.
23. These experiments were performed at the Crocker Special Research Laboratory, Columbia University, New York, in May, 1917.
24. Wintz, H.: Die physiologisch-chemische Wirkung des Follikelsaftes, Arch. f. Gynäk. **113**: 457, 1920.
25. Seitz, Wintz and Fingerhut: München. med. Wchnschr. **61**: 1657, 1734, 1914.
26. Frank, R. T.: Has Ovotherapy as Now Practiced an Experimental Basis? Arch Int. Med. **6**: 314 (Sept.) 1910.

ciple as they may have originally contained. Pharmacologically they are inert. This includes the ovarian extracts, corpus luteum extracts, ovarian residue and ovarian substance, etc., of which we read that they cure amenorrhea, sterlity, dysmenorrhea, menorrhagia, metrorrhagia, pernicious vomiting, climacteric disturbances and mental confusion in women, etc.

The near future may supply us with an at least partially potent lipoid extract. What is required is purification of the lipoid, a suitable bland menstruum and parenteral exhibition. The action of such an extract will be as specific for the genital sphere as that of thyroxin is on the metabolism. Probably the placental lipoid, which is far easier to obtain, will act as an efficient substitute.

In the meantime, it seems likely that we shall continue to receive ecstatic reports from the commercial laboratories of the marvelous cures obtained with ovarian extracts, especially if combined with a pinch of thymus, spleen, bone-marrow and pancreas.

SUMMARY

1. The development of the female (Müller's) duct system from an indifferent anlage is dependent on the presence of the ovary.

2. The transformation of the infantile genital tract, inclusive of the secondary sex characters, to the adult stage results from a quantitative increase in ovarian secretion.

3. The normal sexual cycle includes maturation of an ovarian follicle, ovulation, impregnation and pregnancy. Menstruation signifies the abortion of an unimpregnated ovum. The accompanying uterine changes are in many ways analogous to those occurring in abortion.

4. Decrease or increase in ovarian secretion can produce clinical manifestations. Similar manifestations may result from other (nonovarian) causes.

5. The ovarian extracts now in use have been deprived of the small amount of active substance that they may have contained when fresh. Their pharmacologic effect on the sexual tract is nil. This does not imply that a potent extract cannot be elaborated.

Majestic Building.

Evolution of Public Health Work.—In the process of evolution, according to C. V. Chapin (*Health News* **98**:308 [Dec.] 1920), public health work has passed through three stages, the first dealing almost exclusively with environment. Health work was based on the idea that disease breeds in filth and, therefore, it chiefly consisted in waging a war against filth. This was the era of sanitation, the building of sewer systems, and the introduction of water supplies—work of great importance, most of which has been so well done that the health officer need no longer give much attention to it, except in rural districts and small towns and villages where he still has to influence people to do away with the insanitary privy and to install a pure water supply. We have learned to discriminate between dangerous dirt and dirt that is not dangerous, therefore less attention is paid to environment than in the past; but the tradition of controlling public health through environment remains as an incubus on the health department. The second stage was concerned chiefly with the isolation of communicable diseases. In the last century, with the filth theory dominant, contagion became recognized as an important factor; it was believed that if every person who had a contagious disease could be quarantined such diseases in time could be stamped out. We still need to isolate cases of communicable disease and probably will continue to do so, but the same stress is not placed on isolation as was given a few years ago.

THE RÔLE OF TRAUMA IN LESIONS OF SYPHILIS

WITH PARTICULAR REFERENCE TO THE HEREDITARY TYPE *

I. HARRISON TUMPEER, S.M., M.D.

Associate Professor and Head of the Department of Pediatrics, Post-Graduate Medical School of Chicago; Adjunct in Pediatrics, Michael Reese Hospital

CHICAGO

Syphilitic manifestations may be absent during a long period, when the disease may be termed latent. Trauma may excite active lesions on the predisposing soil of syphilitic infection. Gougerot and Clara [1] quote Landouzy's case of an army officer who contracted syphilis, and twenty-five years later developed an osteitis when thrown from his horse. All that time the infection had remained dormant. They regard post-traumatic manifestations as very important because often an underlying syphilitic infection is overlooked. Such lesions may be allowed to persist for months and even years, when a few weeks' vigorous antisyphilitic treatment would produce healing. There is a marked tendency for syphilitic patients to fractures following comparatively slight trauma. Coues [2] explains that roentgen-ray examinations of such cases will often disclose signs of former periostitis.

In addition to these instances of a pathologic condition of the bone, gummas tend to occur at the site of repeated daily traumatism. Railliet [3] describes the case of a chauffeur with a skin lesion of the arms and that of an army officer with an exostosis of the tibia and an ulceration of the leg due to rubbing the skin when mounting his horse. In this connection he recalls the frontal gummas of Islam due to rubbing the forehead against the door mat of the mosque. This is well described by Lacapère and Laurent,[4] who treated forty cases of gummatous lesions in the dispensary at Fez, Morocco. Fourteen of these were on the forehead, and they state that such localization can be explained only by the predisposing influence of the trauma when the men kneel in prayer, according to the Mohammedan custom, with the brow resting on the stone floor of the mosque. Five times a day, they say, the faithful thus prostrate themselves from ten to twenty minutes, and their brows show the effect of this prolonged contact with the stone floor.

Certain cases of paresis have been acutely precipitated and others adversely influenced by craniocerebral injury. It is fair to conclude that a given injury to the head in a nonparetic syphilitic is responsible for the paretic signs which follow and disable the patient soon thereafter. Osnato [5] states that cerebral syphilis of the paretic type develops when something happens to change the permeability of the blood vessels of the brain, allowing the spirochetes and their toxins access to the brain tissue. Trauma of the brain may, therefore, permit the spirochetes to invade the brain tissue by causing vascular injury or brain destruction. This invasion is followed by gliosis and nerve cell sclerosis, which are also integral parts of paretic brain pathology.

* From the Pediatric Clinic of the Post-Graduate Hospital of Chicago.

1. Gougerot and Clara: J. méd. franç. **7**: 216, 1918.
2. Coues, W. P.: Interstate M. J. **23**: 603 (Aug.) 1916.
3. Railliet: Bull. et mém. Soc. méd. d. hôp. de Paris **43**: 677 (July 4) 1919.
4. Lacapère and Laurent: Paris méd. **8**: 94, 1918.
5. Osnato, M.: J. Nerv. & Ment. Dis. **52**: 112 (Aug.) 1920.

Inherited as well as acquired syphilis is betrayed by trauma. All tissues may be affected, skin, subcutaneous tissue, muscle; and in each localization tertiary lesions may be seen. Gougerot and Clara emphasize that post-traumatic syphilitic manifestations may occur after all types of trauma, single wound, slight repeated, and light or violent trauma, wound or contusion. To bring further evidence to bear on the importance of trauma in exciting lesions in individuals with hereditary syphilis, two cases are described.

REPORT OF CASES

The children are half sister and brother. The father of the girl, who is the elder, is not known except that he had been a soldier and regularly married to the mother. He deserted when the child was 3 years old. The father of the boy and the three younger children has lived with the mother for eleven years although not legally married. He is well developed physically, has no syphilitic signs or symptoms, and the Wassermann test on his blood was found negative by two different laboratories using the same specimen. The mother has radial scars at the corners of her mouth and fissures across the lips pathognomonic of hereditary syphilis. The Wassermann test on her blood is four plus. She has had no miscarriages and has been pregnant six times. One of the children died in infancy from a "bowel disorder." The three youngest children have negative Wassermann tests, although there are suggestive stigmas of hereditary syphilis. The mother has a sister four years older who seems normal and whose two children are well developed mentally. Indeed, there is a wide social gap between the sisters. Their mother died of "asthma" and their father of "dropsy." The children with whom we are concerned have hereditary syphilis as described below. There is the possibility that it is a third generation infection from the signs of hereditary syphilis in the mother, if additional acquired syphilis in the mother is not proved.[6]

The girl is 15 years old. There is no history of snuffles or rash in infancy. She had pneumonia, whooping cough and measles in the order given. In 1915 she was treated for interstitial keratitis. Examination at that time showed her only fairly well developed and anemic. There was considerable nasal discharge and marked notching and peg shape of the upper incisors. The teeth were irregular in shape and disposition, poorly kept and carious. The Wassermann test on the blood was four plus. Subsequently the tonsils were removed, and there was another positive Wassermann test. In February, 1921, she was thrown to a cement floor by playmates. She became comatose. The following day she could be aroused to follow directions such as projecting the tongue and swallowing medicine, but she closed her eyes and showed no interest in her surroundings. Her expression was blank. After a few days she became more aware of her surroundings, even to the point of refusing to go home. During this time she lay in the home of a neighbor. There was no vomiting or headache. At times she complained of epigastric pain, not bandlike. There were no lightning pains. Her expression was that of a mental defective. There was an occasional paresis of the right side of the face, and the right nasolabial furrow was smoothed. The left ocular aperture was slightly larger and required less force to open. Hutchinson teeth and strabismus were conspicuous. The strabismus was a convergent, concomitant alternating type of about 20 degrees, both eyes fixing. The fundus was normal. At times there was some inaccuracy in placing the right heel to the left knee and some diminished pain sense over both tibiae. The Romberg sign was indicated, and often there was some unsteadiness in walking. There were no pathologic reflexes. The mentality was slow but clear. Her mental age, determined by Dr. David Levy of the Institute for Juvenile Research, was 9½ years, placing her in the high grade defective group. It was difficult to differentiate the inherent defect due to syphilis and that due to inherited mentality as such. She was characterized by lapses of attention which would probably show different results in further scores. Some of her reactions are considered definitely pathologic. There was better ability in immediate memory than in other tests, and she was especially poor in tests involving comprehension.

The blood pressure was 115 systolic, 70 diastolic and 45 pulse. The Wassermann test on the blood and spinal fluid was doubtfully negative. A few days after the accident there were generalized muscular spasms resembling an epileptic seizure. The mother states that there had never been such occurrences previously. Since that first attack there have been more than a dozen. She has been found lying on the street in convulsions, frothing at the mouth. She is removed to her home or the hospital and is nonresponsive for a few hours. She takes liquids, however, within a few hours. When she is closely observed during the examination, the eyelids quiver as if there were a conscious effort to keep them closed. During this period there is a remarkable catatonia. The most bizarre and difficult positions are maintained for many minutes. Another behavioristic peculiarity is her feigning attacks when her mother is announced in the hospital or her discharge home is feared. She hates her home and objects to school, where she is backward and ridiculed by her classmates.

The boy is nearly 10 years old. He was apparently well until January, 1920, when he suffered a fractured femur. He was admitted to the Cook County Hospital, where he was described in the records as well nourished. It was also stated that the pupils reacted to light and accommodation and were normal in shape. There were carious teeth and hypertrophic, septic tonsils. The submaxillary glands were tender, and there was cervical adenopathy. Pediculi were present in the scalp. Extension failed to correct the deformity in the thigh. The roentgen-ray findings were transverse fracture of the shaft of the femur at the junction of the middle and lower thirds. The distal fragment was displaced backward, inward and upward, and there was 3 centimeters (1⅛ inches) of shortening due to overriding of the fragments. Healing did not occur. Two months after the accident an autogenous bone graft was made into the right femur, and he was discharged a month later.

Two months later he returned to the hospital because of failing vision. There was no pain or local inflammation, and the vision was worse at night. Further history revealed the fact that he was knocked unconscious by the injury, but nothing indicated a cranial wound. Again the family history was stated to be negative. At this time there was noted the quadrilateral head with bulging frontal bosses. The teeth were carious, malposed and in poor alinement. The upper incisors were notched and tapered somewhat to their tips. The tonsils were large and ragged. The liver was enlarged, and there was general adenopathy. The Romberg sign was noted, but otherwise muscle sense and coordination were good. The eyes showed many changes. The pupils did not react to light or accommodation. The lid closure reflex was absent. The right pupil was irregular. The disks were bluish white and the margins were well defined. There were streaks of an old exudation. Three weeks after this last admission the vision was 20/100 in each eye. Color vision was very defective, blue being the only color recognized with any certainty. The Wassermann test was four plus, and the diagnosis was made of primary optic atrophy. A roentgenogram of the head showed the sella turcica irregular in shape with a flattened floor and an increase in the long diameter of this recess. It was noted that the cranial area was disproportionate to the face, being much larger than normal. The sphenoidal sinus seemed to be absent.

Eight months later he was admitted to the Post-Graduate Hospital. The peculiar shape of the head, described so frequently by the French as typical of syphilis inherited to the third generation, was striking. The reflexes were normal save the pupillary, and sensation and stereognostic sense normal. Excoriations of the upper lip were present because of constant nasal discharge. The teeth were in poor condition, and the upper incisors contained concave depressions at their tips. The pupils were unequal, irregular and fixed. He could distinguish only between light and dark.

SUMMARY

1. Trauma may excite lesions in individuals with acquired syphilis whose infection is dormant.

2. Bone changes, gummas of the soft tissues and paretic brain changes are the usual manifestations.

6. This question is discussed by the author in the American Journal of Syphilis 5:601 (Oct.) 1921.

3. Trauma may act as the exciting cause in the production of lesions in individuals with hereditary syphilis whose infection is dormant and even unsuspected.

4. A girl with hereditary syphilis, possibly of the third generation, developed epileptiform seizures and mental disturbances following a head injury causing coma.

5. Her half brother likewise infected developed primary optic atrophy following similar trauma. The healing of the fracture produced by the same injury was markedly retarded.

CONCLUSION

Trauma may incite the localization of a syphilitic lesion in an individual with a quiescent infection, acquired or hereditary, probably by producing a locus minoris resistantiae.

TENDER PRESSURE POINTS WITH SO-CALLED SYMPTOMLESS GALLSTONES *

G. A. FRIEDMAN, M.D.
NEW YORK

There is nothing new in the statement that gallstones may run a latent course and be accidentally discovered at necropsies or by the surgeon. Kehr [1] emphasizes the fact that symptoms are present in only 5 per cent. of persons affected with this malady. For years my own experience has taught me that cholelithiasis or cholecystitis may be symptomless, i. e., that these conditions do not give rise to symptoms pertaining to the gallbladder proper, but lead to numerous complaints which are not characteristic of a pathologic condition of the gallbladder, so that one's mind is directed to a multitude of abdominal pathologic conditions other than gallbladder disease.

In persons having so-called symptomless gallstones, not only are symptoms present, but one can find in them signs which are almost pathognomonic for a diseased gallbladder. The signs, when present, furnish the physician with a clue for the interpretation of the apparently nonspecific, nongallbladder symptoms. These signs are tender pressure points, elicited in the intercostal spaces in the continuation of the right axillary line and the scapular and posterior median lines at the level of the gallbladder.

My object in this paper is to emphasize two points which, although not new, are often ignored in practice: (1) that gallstones are often seemingly symptomless, and (2) that the correct diagnosis of this condition is possible.

One may divide patients who have the malady into three groups: (1) those who are suffering from typical attacks of pain; (2) those in whom the paroxysms of pain are atypical, and (3) those in whom the element of pain is entirely absent, but who present a train of dyspeptic and nervous symptoms.

The symptoms of patients belonging to Group 1 are usually so clear that the diagnosis can be made correctly from the history alone by even the novice in medicine. A history of pain, coming on in paroxysms and originating in the pit of the stomach or in the right hypochondrium and radiating to the right shoulder bone and independent of meals, is the sine qua non for the typical form of cholelithiasis usually described in textbooks. A history of jaundice, irregular fever or rigors cannot often be elicited from these patients. At times there is no abdominal rigidity. The liver and gallbladder may not be palpable. On the contrary, the latter is often small and actually found shriveled at operation. Thus, tenderness on pressure may be completely absent from this region. Tenderness frequently elicited in the epigastric region (Fig. 1) may be useless as a diagnostic aid since neurotic persons, especially women, usually react with pain when pressure is exerted in this area. The urine often shows a negative bile and a negative urobilin reaction. There is seldom a demonstrable abnormal change in the stools. Achylia gastrica, anacidity, hypersecretion or hypochlorhydria, or disturbances of gastric or intestinal motility have no direct bearing on gallbladder pathology. The direct proof of gallstone shadows, through the roentgen ray, is often not forthcoming, as the majority of patients with gallstones are obese. A pylorus shown by roentgenograms to be markedly drawn to the right often has no meaning in obese persons, and when such plates are correctly interpreted this indirect sign points at most to periduodenal or pericholecystic adhesions. The significance of a visible gallbladder shadow as to its pathogenicity is still under discussion by conservative roentgenologists. To diagnose a diseased gallbladder from the character of the bile aspirated by means of the duodenal tube is only occasionally possible. Einhorn advocates this method, and in his hands it seems to be of value in cholecystitis; but the method is hardly accessible to the practitioner and, aside from this, the passage of the duodenal tube is often disagreeable to the patient. The Lyons test is comparatively new, and time will be required to prove the actual value of his discovery for the diagnosis of cholecystitis. Cholesterin determinations of the blood have not been of any value as a diagnostic aid. From these considerations it becomes evident that, notwithstanding the fact that some of the inconstant signs or a combination of them may be present in persons belonging to the typical group, the corner stone for the diagnosis of their condition is the history.

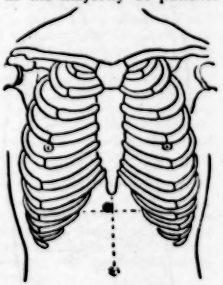

Fig. 1.—Epigastric tender pressure point which is not characteristic of gallbladder disease.

Patients belonging to Group 2 have attacks of pain which are not typical for cholelithiasis. The character of pain is often similar to that in chronic peptic ulcer, dependent upon food. Ulcer might be diagnosed and not found at operation, but the gallbladder may be found filled with stones and chronically inflamed. All the previously mentioned symptoms may be absent, and as the history is not typical of a diseased gallbladder, the correct diagnosis is not made.

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* Read before the Eastern Medical Society, Oct. 14, 1921.

*Because of lack of space, this article is abbreviated by the omission of case reports and some illustrations. The complete article appears in the author's reprints.

1. Kehr, H.: Diagnosis of Gall-Stone Disease, American Translation, 1901, p. 25.

However, it is true for this group of cases that one will think of the possibility of a diseased gallbladder, notwithstanding the fact that the symptoms are vague. The physician may then obtain a corroboration of his tentative diagnosis through direct or indirect signs of roentgen rays, especially in persons who are not obese. But such a suspicion will not often arise in one's mind when the patients belong to the third group.

Patients belonging to Group 3 do not give a history of either spontaneous pain or attacks of pain. The symptoms of pain cannot be elicited from their histories on the strictest cross-examination. These patients present in their histories a train of dyspeptic and nervous symptoms. Their chief complaints are paroxysmal vomiting or attacks of regurgitation of food, a sensation of a load in the stomach, sour eructations, flatulence, constipation, constipation alternating with diarrhea, loss of flesh, general weakness, anorexia, nausea, etc. In them, there may be a fair combination of the symptoms mentioned above. In rarer cases, one may speak of a monosymptomatic dyspepsia since there might be only one presenting symptom: as a sensation of a load in the stomach, flatulence, nausea or burning sensation in the epigastric region. Stiller's habitus is present in some.

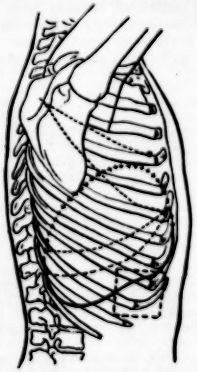


Fig. 2.—Area of tenderness in the continuation of right axillary line.

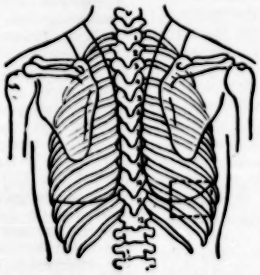


Fig. 3.—Area of tenderness in the continuation of scapular line.

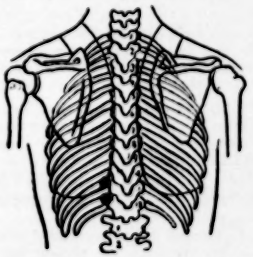


Fig. 4.—Tender pressure points, near the spine to right side.

In order not to be monotonous, I omit the enumeration of the nervous symptoms complained of. Every possible symptom given by a neurotic may be obtained from the history. These patients date their complaints back from three to twenty years. They consult numerous physicians, gastro-enterologists and neurologists. The usual diagnosis made of their conditions is dyspepsia, movable kidney, atonic or spastic constipation, nervous dyspepsia, achylia gastrica, gastrosuccorrhea, vagotonia and, last but not least, the scapegoat of all that is unknown in the abdomen—autointoxication. It is obvious that if the patients belonging to this group happen to consult a surgeon, his advice is against surgery. On several occasions, such patients were referred to me by surgeons as dyspeptics. If the family physician becomes disgusted after treating these patients for dyspepsia, he may refer them to a roentgenologist who in routine examination of the gastrointestinal tract may discover direct or indirect signs of a diseased gallbladder.

DIAGNOSIS

Pressure tender points in the intercostal spaces at the level of the gallbladder, in the continuation of the right axillary (Fig. 2), scapular (Fig. 3), posterior median line (Fig. 4) are almost always found in persons suffering from disease of the gallbladder, even when tenderness in the gallbladder region proper cannot be elicited. The presence of these spots is nearly as characteristic as the history in the group of so-called typical cholelithiasis.

One will frequently omit this important examination in atypical cases, but will not neglect to search for these spots in patients belonging to the first group, and will hardly ever search for them in dyspeptics without pain: wherefore, the importance of searching for the above mentioned tender spots in every dyspeptic, the more especially if these patients have seen many physicians. In eliciting these spots in the intercostal spaces at the gallbladder level, the mind of the practitioner will immediately become concentrated on the gallbladder as the main source of the symptoms which previously have been considered as dyspeptic. Tenderness need not be found in all the areas mentioned. One spot alone may be tender, such as the axillary portion, the scapular or the portion in the posterior median line. The actual proof that these tender pressure points are in direct connection with a diseased gallbladder may be shown by the fact that the tenderness in these areas cannot be elicited when the diseased gallbladder is removed.

TECHNIC

In searching for these pressure points, one must apply equal force to the right and to the left side with the palpating fingers. This procedure should be repeated on several occasions, especially in neurotic women. If on repeated examinations there is marked tenderness on the right in comparison with corresponding areas to the left, a pathologic gallbladder is the source of the symptoms in the painless dyspeptic. This patient should be referred to a surgeon, even though the report of the roentgenologist is negative. The rule is: Never forget to search for tender pressure points, in the areas mentioned above, in dyspeptics and also in cases simulating peptic ulcer or chronic appendicitis.

I have been able many times correctly to diagnose cholecystitis as a concomitant condition in otherwise clear cases of gastric ulcer or chronic appendicitis by

finding the tender pressure points. Interns in the institutions with which I am connected have often been able to make a correct dianosis of diseased gallbladder in painless dyspeptics by the examination described.

To my mind there can be only one explanation for the tender pressure points. Gallstones are rarely aseptic. As a rule there is a concomitant cholecystitis. The infective agent of the gallbladder, for unknown reasons, has a predilection to settle in small areas of intercostal nerves at the gallbladder level. The inflammatory condition in minute areas of these nerves is not sufficient to cause spontaneous pain, but reaction occurs as soon as pressure is exerted on the spot. If this tenderness should be due to a reflex from the diseased gallbladder, it would manifest itself spontaneously, i. e., without pressure. I have missed the pressure points in three cases of chronic peptic ulcer which were found at operation to be associated with gallstones. The gallbladders in these cases were as thin as tissue paper, without the slightest inflammatory signs. From two of these gallbladders, sections were made and the histologic picture in both cases was normal. Therefore, I am forced to believe that the tenderness in the majority of cases of cholecystitis is due to infection of minute areas of intercostal nerves.

CONCLUSION

While the eliciting of tender pressure points in the mentioned areas in cholecystitis with or without stones is not new, they are hardly ever searched for in atypical cases, and rarely in dyspeptics who present no symptoms pertaining to the gallbladder.

63 East Eighty-Fourth Street.

Clinical Notes, Suggestions, and New Instruments

FIGHTING DIPHTHERIA IN THE COUNTRY

HARVEY B. BASHORE, M.D., WEST FAIRVIEW, PA.
Medical Director, Cumberland County

The modern way of fighting diphtheria by the Schick test and toxin-antitoxin, while almost ideal, is hardly yet applicable in many of the rural districts, so we have to rely on antitoxin and the culture tube. Many physicians in my district use antitoxin, but they do not use the culture tube; thus, between the practitioners and the neglectful parents we miss a good many cases, and all of these patients become convalescent carriers without restrictions. Here it is that the health authorities can do much good by stepping in and taking cultures of all possible contacts, thereby gradually rounding up these missed cases which are the real menace to the community. It is presupposed, of course, that all known patients with the disease are properly isolated and quarantined, which is generally the fact in well organized states.

Therefore, when a case of diphtheria occurs in the district under my supervision, even though the patient and all the immediate contacts have received antitoxin, a nurse, especially trained for this work, visits the patient and gives such instruction as may be necessary in regard to isolation, nursing, etc. She also learns a good deal about the outside contacts, or any other possible cases: these are then visited and throat cultures taken; all positive ones are put under observation quarantine until two successive negative cultures are obtained. No placard is put up unless it becomes absolutely unavoidable. By this plan we have greater cooperation on the part of the public and—a very necessary thing—on the part of physicians. When a case occurs in a school, the nurse, after explaining the procedure to the teacher and the pupils, takes throat cultures of the entire school. I say the entire school, for although this is usually really unnecessary, it is good policy. On account of the mental narrowness of an isolated community John Brown will complain because a culture was taken of his child and not of Mrs. Jones'. So we take all, and it saves us a lot of trouble. Those whose report is returned positive are immediately excluded from school and kept under observation quarantine until the usual two negatives appear.

In nearly every little outbreak we speedily come upon the missed case—a mild sore throat with no clinical symptoms; but the positive culture and the history generally tell the tale, and if taking cultures did no more than locate these it would prove the value of the plan. Sometimes the missed cases are not so mild, but are the result of pure neglect. In a certain parochial school, diphtheria had been very prevalent—a case or two every now and then for about two years. We finally got in touch with this place and took twenty cultures of the most likely carriers, and only one report came back positive. On inquiry we found that this young man had been sick with sore throat and in the school infirmary for a week; he had no physician, as the matron had made a diagnosis of tonsillitis. The school authorities were much chagrined and felt that we had found the one case to show up their neglect; and so we had. But ever afterward these people had great respect for the bacteriologist's report, and incidentally have had no diphtheria since that time.

As another added factor in suppressing diphtheria, Pennsylvania now requires two successive negative cultures before release from quarantine. This is vastly more reasonable and scientific than the fixed period of twenty-one days, which in most cases is too short. The following illustrates the point in question: Some years ago we had a small outbreak in a certain rural school district, which furnished one case after another, very slowly and deliberately. Several times we felt that we were just about over the outbreak, when a new case would appear. We investigated the quarantine and isolation, and found everything and everybody meeting the legal requirements. We became suspicious and began to take cultures of the patient on the day of quarantine removal, and —if I remember correctly—every one was returned positive. Here, then, was the cause for the continuance of the disease. We explained the condition to the parents of the patients—we did not then have the same authority as now—and they kept the children isolated for two weeks longer. The outbreak stopped short, and there has been no case in that community since, between five and six years ago.

In this work in the outlying districts it is fine to see the coooperation we have with the public: the people seem to realize the value of scientific precision and the danger of carriers spreading the disease. A little more time, a little more education and we shall have the Schick test and toxin-antitoxin in the country school; and then diphtheria will become as rare as smallpox.

MENINGOCOCCUS MENINGITIS WITH BASAL BLOCKAGE *

JOSEPH H. BAINTON, M.D., NEW YORK

History.—A boy, aged 8 months, artificially fed, and perfectly well up to the time of the present illness, developed a cough, Oct. 1, 1921, which lasted for a few days. October 9, the child became decidedly worse; developing projectile vomiting, five convulsions, fever 102, and cervical opisthotonos. Vomiting and convulsions were not repeated, but fever and cervical opisthotonos continued until the time of admission to the hospital, October 14. The mother stated that all during the week the child had been restless and fretful, and had constantly held the head in the same fixed position.

Physical Examination.—The infant was well nourished, and apparently normal in development, lying quietly in bed. Cervical opisthotonos was extreme, flexion being impossible with a reasonable degree of force. The anterior fontanel was 1 inch (2.5 cm.) in diameter, bulging and pulsating. The pupils were equal and reacted to light. There was congestion of the posterior half of the right ear drum. The spinal column was normal in contour and showed normal flexibility except in the cervical region. There was a slight degree of muscular

* From the Medical Service of St. John's Long Island City Hospital.

rigidity. The deep reflexes were normal. Kernig's sign was absent.

Treatment and Course.—On lumbar puncture, the fluid, unfortunately, was contaminated by accidental puncture of a vein, making it impossible to evaluate properly its appearance or to perform complete laboratory analysis. The fluid was under greatly reduced pressure, only 1 c.c. dropping out at a very slow rate. A twenty-hour culture developed meningococci, verified later by positive agglutination.

October 15, lumbar puncture yielded a "dry tap." Ten cubic centimeters of antimeningococcus serum was introduced into the spinal canal. We can see no objection to injection of fluid into the empty spinal canal, provided force is not used. As a test and safeguard we allowed 5 c.c. of serum to run out, which it did drop by drop.

October 16, lumbar puncture yielded only a few drops of reddish fluid. Five cubic centimeters of serum was introduced.

October 17, lumbar puncture gave a "dry tap." The skull was trephined by Dr. F. C. Keller. The right lateral ventricle was punctured, 25 c.c. of fluid allowed to escape, and 15 c.c. of serum introduced.

October 19, lumbar puncture, to our surprise, yielded a cloudy yellow fluid under pressure at the rate of 60 drops a minute, the fontanel flattening out during the operation. Twenty cubic centimeters of fluid was removed and 15 c.c. of serum introduced.

Subsequently, lumbar punctures were performed, October 21 and 24; 30 c.c. of fluid was removed on each occasion, followed by the introduction, respectively, of 10 and 12 c.c. of serum. Each time the fluid was under greatly reduced pressure, making it necessary to leave the needle in situ for one hour to obtain the 30 c.c.

October 25, the child developed general urticaria with a temperature of 102 F. However, as the general condition was so much better, the fontanel flat, the neck flexible, the report on the spinal fluid of the previous day showing vast improvement, we thought it advisable to withhold the serum. On the following day the temperature reached normal and remained so till the day of discharge.

The patient was discharged, October 31, in apparently good physical and mental condition, which has continued.

Right otitis media developed as a complication. A culture of the discharge yielded meningococci and pneumococcus Type III.

Other laboratory data are given in the accompanying tables.

CEREBROSPINAL FLUIDS

	October 14	October 17, from ventricle	October 19	October 21	October 24
Cell count	Not made	136	1,500	1,300	300
Globulin	.....	Slight excess	.....	Marked excess	Very slight trace
Fehling's solution	.....	Reduced	Slight reduction	No reduction	Good reduction
Differential:					
Polymorphonuclear					70%
Lymphocytes					30%
Culture	Meningococci	Meningococci	.....	Meningococci	No growth
Smear	None made	Gram negative, intra and extra cellular	Gram negative, intra and extra cellular	Gram negative, intra and extra cellular	Gram negative, (Two organisms seen on smear)

LEUKOCYTE COUNTS

	October 14	October 24
Leukocytes	21,800	11,300
Polymorphonuclear	70%	58%
Small lymphocytes	30%	31%
Large lymphocytes	0%	9%
Eosinophils	....	1%

SUMMARY

In a case of meningococcus meningitis, communication between the cavities of the brain and the spinal cord was completely obstructed. Two days after puncture of the lateral ventricle with evacuation of cerebrospinal fluid and introduction of antimeningococcus serum, continuity of the subarachnoid space was reestablished.

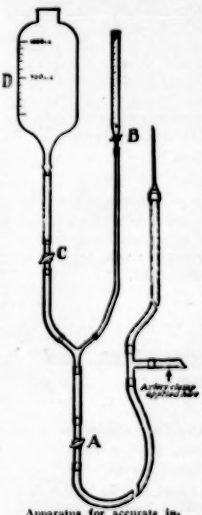
166 West Eighty-Fifth Street.

A SIMPLE APPARATUS FOR ACCURATE INTRAVENOUS ADMINISTRATION OF GLUCOSE SOLUTIONS

WILLIAM THALHIMER, M.D., MILWAUKEE

The remarkable and accurate apparatus devised by Woodyatt for the slow intravenous injection of glucose solution, at any desired rate, is not available in many hospitals and is quite expensive. The apparatus described here is simple and inexpensive, and accomplishes the same results with such a degree of accuracy as to make it of distinct practical value. It consists of an ordinary intravenous infusion set, with the flow regulated by a glass stopcock (*A*), and a 10 c.c. buret, graduated to 0.1 c.c., introduced as a reservoir, in order to determine accurately the rate of flow by observing the time required for delivery from the buret of a given amount of fluid.

The system is filled with the solution, and the fluid rises to the same level in the large graduated flask (*D*) and in the buret. The needle is inserted into the vein, and the stopcock at *C* is closed, shutting off the flow from the reservoir (*D*). The stopcock (*B*) of the buret is opened, and the stopcock at *A* is gradually turned until the solution begins to flow very slowly from the buret. It is easy by watching the fall of the fluid in the buret to determine with the second hand of a watch how long it takes for the delivery of 1 c.c. of solution. Since the rate of flow can be accurately regulated with the glass stopcock (*A*), any desired rate can be obtained. When this has been done, the stopcock at *B* is closed and the stopcock at *C* is opened. The solution then runs from the large flask (*D*) at the same rate as it did from the buret. The rate of flow from both *D* and the buret is the same, since the level of fluid at the start was the same.



Apparatus for accurate intravenous administration of glucose solutions.

The fluid level can always be made the same in the large flask *D* and in the buret by opening both of the stopcocks *B* and *C*, without changing the position of the stopcock at *A*. The slow rate of flow through the stopcock at *A*, when the apparatus is in use, does not prevent the fluid from reaching the same level in both the flask (*D*) and the buret.

The rate of flow can be observed from time to time by repeating the original procedure. If the rate of flow is slow, the fluid will remain at the same level in *D* and the buret, if the stopcocks to both of these are kept open.

The graduations on the buret can then be calibrated in terms of the number of cubic centimeters in *D*. For example: In one of our apparatus each 0.1 c.c. on the buret is equivalent to 11 c.c. in *D*. The fall of the fluid level can be more rapidly and accurately determined in the buret than in the flask (*D*). Every 0.1 c.c. fall indicates that 11 c.c. has been delivered from the flask (*D*) into the vein.

We have given glucose solution intravenously with this apparatus as slowly as 40 c.c. an hour, for five hours. The rate could be made even slower, and we also have given it at various faster rates.

The apparatus is adaptable to many different arrangements for other purposes. We have found it convenient to have the various parts fastened to a board, and then sterilized after wrapping in a sheet. The rate of flow can be best controlled if the stopcock at *A* is about 2 feet below the top of the flask (*D*). The stopcock should be lubricated with sterile petrolatum just before use. A solution which is being given

slowly cools in the tube before it reaches the vein. It can be warmed by an ordinary electric pad placed around the portion of the tube nearest the vein.

The apparatus can be used also for administering serums intravenously, such as antimeningococcus serum. We believe that the apparatus can be used for experimental purposes, since the rate of flow can be accurately regulated.

A NEW DEVICE FOR THE MORE UNIVERSAL USE OF THE ELECTRIC BONE SAW

ELLERY M. HETHERINGTON, M.D., KANSAS CITY, MO.

The accompanying illustration shows a saw arbor to be attached to a bone engine. It permits a thorough control by both hands and in perfect view at all times. The cable being long and flexible, the saw can be held to cut at any angle.

Cross-sections of bone can be easily and quickly made.

In cases of ununited fractures, the ends of bones may be freshened without detaching bones from their soft parts, by slipping a flat retractor under each side of the bone, or by

Saw ready to attach to cable.

slipping a thin piece of flexible metal under the bone, and each end retracting the soft parts.

A single or double saw may be used for procuring grafts and inlays. A sufficient number of varied thickness washers come with the instrument to cut any thickness of inlay desired.

A single saw is a very convenient method of procuring a wedge shaped graft for spinal work, also pointed grafts for intermedullary splints.

738 Lathrop Building.

METHOD OF MAKING LANTERN SLIDES FROM ROENTGEN-RAY NEGATIVES

C. E. AND C. C. COLLINS, CRISFIELD, MD.

For routine work in making lantern slides from roentgen-ray negatives we have evolved a technic that will give practically 100 per cent. results and which requires very small outlay. For illumination, a roentgen-ray viewing box, with four 75 watt lamps, in a semidarkened room, is employed; for the reducing, a small camera equipped with ground-glass back, plate-holder, and portrait lens. The copying lens does not give as satisfactory results. In connection with this we use roentgen-ray film. Two pieces can be cut from a 5 by 7 film, and the 14 by 17 size will cut to advantage.

The camera can be placed from 2 to 4 feet from the viewing box, according to the size of the negative, the proper focus obtained on the ground-glass back, with the portrait lens attached, and an exposure of from ninety to 100 seconds given. The film may be developed and fixed in the standard roentgen-ray solutions. After drying, the film is cut to lantern slide size (3¼ by 4 inches), the picture blocked off with black paper, and mounted between two lantern slide cover glasses and bound.

We have experimented with various makes of lantern slide plates, and so feel safe in recommending the film as being the most satisfactory for this particular kind of work.

Another good feature about this method is that if the slide is accidentally broken it is not irredeemably lost, as it will be necessary merely to remount the film between new cover glasses.

A SIMPLE METHOD OF STAINING GRAM-NEGATIVE ORGANISMS *

RUTH TUNNICLIFF, M.D., CHICAGO

A modified Gram stain, without decolorization with alcohol, has been found useful in staining gram-negative organisms, which take ordinary stains with difficulty. A rat streptothrix, similar to one isolated in rat-bite fever, *Spirochaeta pallida* and fusiform bacilli and spirilla, found in Vincent's disease, have been studied by this method, in smear preparations from lesions and from cultures. The specimen is fixed in the flame, stained three or four seconds with freshly prepared carbol-gentian violet solution, 1 part saturated alcoholic gentian violet in 9 parts of 5 per cent. phenol (carbolic acid), washed in tap water, treated with Gram's solution of iodin (iodin, 1 gm., potassium iodid, 2 gm., water, 300 c.c.), three or four seconds, again washed in water and dried. The organisms stain a purplish black, resembling preparations stained with Fontana's silver stain. Fontana's stain, however, requires more time for staining, and the solutions are difficult to prepare and are unstable.

REPORT OF A CASE OF RUPTURED UTERUS RESULTING FROM THE USE OF PITUITARY EXTRACT

MAX A. DORLAND, M.D., ANACONDA, MONT.

In view of the fairly general use of pituitary extract by obstetricians, and the laxity of legal restrictions relative to so-called midwives, the subjoined report of an unusual case will be of interest:

An Austrian woman, aged 39, an octipara, whose last pregnancy had resulted in the birth of twins of normal size, which were delivered without difficulty, was strong and healthy, with normal pelvis. Gestation had reached full term. Labor began, and a midwife was called at 4 a. m., Aug. 22, 1921; the case progressed normally, and without unusual incident, until about 5 p. m., when the midwife became a little fatigued, and administered, hypodermically, 0.5 c.c. (8 minims) of pituitrin obstetrical, Parke, Davis & Co., followed in one hour by a second injection of a like amount.

In about ten minutes after the second injection, the patient experienced an extremely painful contraction, during which the uterus evidently ruptured. Labor ceased at this time, and she suffered constant and excruciating pain, soon showing signs of collapse. This alarmed the midwife, and I was called into the case. On arrival, I found the patient in a state of extreme collapse, the pain constant and excruciating, especially over the left side, and much increased on pressure. The abdomen was greatly distended, and the surface flattened when the patient was in the dorsal posture. There was dulness on percussion, in both flanks. The pulse registered 130, and respiration was rapid and labored. Extreme pallor was noted; the face and head covered with perspiration, and pupils were dilated. Digital examination revealed a fully dilated cervix, the head being disengaged, and freely and easily pushed up as far as the examining finger could reach. As the examination proceeded, there was a gush of dark colored blood into the hand. A diagnosis of ruptured uterus was made, and the patient was removed to the hospital, where, with the assistance of Dr. John Noonan, ether being administered by Dr. F. L. St. Jean, the abdomen was widely opened in the median line. When the peritoneum was incised, there was a gush of bloody fluid, and the legs of child protruded through the incision. The child, which was dead, was a boy, weighing 11 pounds (5 kg.). It was freely delivered, the cord clamped and cut, and the intact placenta was lifted freely from the abdominal cavity. There was a large amount of free and clotted blood. The uterus was ruptured throughout the attachment of the left broad ligament nearly to the

* From the John McCormick Institute for Infectious Diseases.

fundus. The uterus, which was contracted into a hard firm mass, was hastily removed, supravaginally, and the abdomen closed, and a large gauze drain inserted. The patient rallied under physiologic sodium chlorid solution hypodermoclysis, hypodermic administration of a digitalis preparation, and other measures to minimize shock.

The following day she felt very well, had practically no pain, took liquid nourishment, and gave no evidence of further hemorrhage. The following day she was less cheerful, and began to show signs of weakening to considerable extent. Saline injections, which had been freely used, failed to revive her weakened heart. The packing was removed, and an enema administered, with good results. During the afternoon she was very weak, with a scarcely discernible pulse. She continued to grow weaker, in spite of stimulants, and died of exhaustion about 5 p. m., nearly forty-eight hours after the operation, maintaining consciousness until ten minutes before respiration ceased.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

FOOD ALLERGENS-SQUIBB.—Powders representing the protein of foods.

Actions and Uses.—See general article "Biologically Reactive Food Proteins," N. N. R., 1921, page 65.

Dosage.—See general article "Biologically Reactive Food Proteins," N. N. R., 1921, page 65.

Manufactured by E. R. Squibb & Sons, New York. No U. S. patents or trademarks.

Almond Allergen-Squibb.—The protein from the almond.

Barley Allergen-Squibb.—The protein from barley.

Brazil-Nut Allergen-Squibb.—The protein from the Brazil-nut.

Buckwheat Allergen-Squibb.—The protein from buckwheat.

Butternut Allergen-Squibb.—The protein from the butternut.

Chestnut Allergen-Squibb.—The protein from the chestnut.

Corn Allergen-Squibb.—The protein from maize.

Filbert Allergen-Squibb.—The protein from the filbert.

Hazelnut Allergen-Squibb.—The protein from the hazelnut.

Hickory-Nut Allergen-Squibb.—The protein from the hickory-nut.

Oat Allergen-Squibb.—The protein from oats.

Peanut Allergen-Squibb.—The protein from the peanut.

Pecan Allergen-Squibb.—The protein from the pecan.

Rice Allergen-Squibb.—The protein from rice.

Rye Allergen-Squibb.—The protein from rye.

Walnut (Black) Allergen-Squibb.—The protein from the black walnut.

Walnut (English) Allergen-Squibb.—The protein from the English walnut.

Wheat Allergen-Squibb.—The protein from wheat.

Apple Allergen-Squibb.—The protein from the apple.

Artichoke Allergen-Squibb.—The protein from the artichoke.

Asparagus Allergen-Squibb.—The protein from asparagus.

Banana Allergen-Squibb.—The protein from the banana.

Blackberry Allergen-Squibb.—The protein from the blackberry.

Black Pepper Allergen-Squibb.—The protein from black pepper.

Bean (Lima) Allergen-Squibb.—The protein from the lima bean.

Bean (Navy) Allergen-Squibb.—The protein from the navy bean.

Bean (String) Allergen-Squibb.—The protein from the string bean.

Beet Allergen-Squibb.—The protein from the beet.

Cabbage Allergen-Squibb.—The protein from the cabbage.

Cantaloupe Allergen-Squibb.—The protein from the cantaloupe.

Carrot Allergen-Squibb.—The protein from the carrot.

Celery Allergen-Squibb.—The protein from celery.

Cherry Allergen-Squibb.—The protein from the cherry.

Coffee Allergen-Squibb.—The protein from coffee.

Cucumber Allergen-Squibb.—The protein from the cucumber.

Eggplant Allergen-Squibb.—The protein from the eggplant.

Grape Allergen-Squibb.—The protein from the grape.

Grapefruit Allergen-Squibb.—The protein from grapefruit.

Lettuce Allergen-Squibb.—The protein from lettuce.

Mustard Allergen-Squibb.—The protein from mustard.

Onion Allergen-Squibb.—The protein from the onion.

Orange Allergen-Squibb.—The protein from the orange.

Parsnip Allergen-Squibb.—The protein from the parsnip.

Pea Allergen-Squibb.—The protein from the pea.

Peach Allergen-Squibb.—The protein from the peach.

Pear Allergen-Squibb.—The protein from the pear.

Plum Allergen-Squibb.—The protein from the plum.

Potato (Sweet) Allergen-Squibb.—The protein from the sweet potato.

Potato (White) Allergen-Squibb.—The protein from the potato.

Prune Allergen-Squibb.—The protein from the prune.

Radish Allergen-Squibb.—The protein from the radish.

Raspberry Allergen-Squibb.—The protein from the raspberry.

Rhubarb Allergen-Squibb.—The protein from rhubarb.

Spinach Allergen-Squibb.—The protein from spinach.

Squash Allergen-Squibb.—The protein from the squash.

Strawberry Allergen-Squibb.—The protein from the strawberry.

Tomato Allergen-Squibb.—The protein from the tomato.

Turnip Allergen-Squibb.—The protein from the turnip.

Watermelon Allergen-Squibb.—The protein from the watermelon.

Beef Allergen-Squibb.—The protein from beef.

Bluefish Allergen-Squibb.—The protein from the flesh of bluefish.

Chicken Allergen-Squibb.—The protein from the flesh of the chicken.

Clam Allergen-Squibb.—The protein from the flesh of the clam.

Codfish Allergen-Squibb.—The protein from the flesh of the codfish.

Crab Allergen-Squibb.—The protein from the flesh of the crab.

Goose Allergen-Squibb.—The protein from the flesh of the goose.

Haddock Allergen-Squibb.—The protein from the flesh of the haddock.

Halibut Allergen-Squibb.—The protein from the flesh of the halibut.

Horse Allergen-Squibb.—The protein from the flesh of the horse.

Lamb Allergen-Squibb.—The protein from the flesh of the lamb.

Lobster Allergen-Squibb.—The protein from the flesh of the lobster.

Mackerel Allergen-Squibb.—The protein from the flesh of the mackerel.

Mutton Allergen-Squibb.—The protein from the flesh of the sheep.

Oyster Allergen-Squibb.—The protein from the flesh of the oyster.

Pork Allergen-Squibb.—The protein from the flesh of the hog.

Salmon Allergen-Squibb.—The protein from the flesh of the salmon.

Shrimp Allergen-Squibb.—The protein from the flesh of the shrimp.

Sweetbreads Allergen-Squibb.—The protein from the pancreas.

Turkey Allergen-Squibb.—The protein from the flesh of the turkey.

Veal Allergen-Squibb.—The protein from the flesh of the calf.

Milk (Cow) (All Proteins) Allergen-Squibb.—The protein from the milk of the cow.

Milk (Goat) (All Proteins) Allergen-Squibb.—The protein from the milk of the goat.

Milk (Human) (All Proteins) Allergen-Squibb.—The protein from human milk.

Milk (Cow) (Casein) Allergen-Squibb.—Casein from the milk of the cow.

Milk (Cow) (Albumin) Allergen-Squibb.—The albumin from the milk of the cow.

Egg (White) (All Proteins) Allergen-Squibb.—The protein from the white of hen's eggs.

Egg (Yolk) (All Proteins) Allergen-Squibb.—The protein from the yolk of hen's eggs.

Egg White Albumin Allergen-Squibb.—The albumin of the white of hen's eggs.

Egg (Whole) (All Proteins) Allergen-Squibb.—The protein from the entire hen's egg after removal of the shell.

Wheat (Gliadin) Allergen-Squibb.—One of the proteins from wheat gluten.

Orris-Root Allergen-Squibb.—The protein from orris-root.

The following method is used for the preparation of Almond Allergen-Squibb, Barley Allergen-Squibb, Black Pepper Allergen-Squibb, Brazil-Nut Allergen-Squibb, Buckwheat Allergen-Squibb, Butternut Allergen-Squibb, Chestnut Allergen-Squibb, Coffee Allergen-Squibb, Corn Allergen-Squibb, Filbert Allergen-Squibb, Hazelnut Allergen-Squibb, Hickory-nut Allergen-Squibb, Mustard Allergen-Squibb, Oat Allergen-Squibb, Peanut Allergen-Squibb, Pecan AllergenSquibb, Rice Allergen-Squibb, Rye Allergen-Squibb Walnut (Black) Allergen-Squibb, Walnut (English) Allergen-Squibb and Wheat Allergen-Squibb.

The shell, if any, is removed and the bean or kernel is finely powdered and completely extracted with purified petroleum benzin (petroleum ether) for the removal of fat. The residue is macerated over night in 10 per cent. sodium chloride solution which has been rendered faintly alkaline by the addition of sodium hydroxide. The salts are removed from the filtered extract by dialysis and the dialyzate is precipitated with acetone. The protein powder thus obtained is further dried with anhydrous acetone.

The following method is used for the preparation of Apple Allergen-Squibb, Artichoke Allergen-Squibb, Asparagus Allergen-Squibb, Banana Allergen-Squibb, Blackberry Allergen-Squibb, Bean (Lima) Allergen-Squibb, Bean (Navy) Allergen-Squibb, Bean (String) Allergen-Squibb, Beet Allergen-Squibb, Cabbage Allergen-Squibb, Cantaloupe Allergen-Squibb, Carrot Allergen-Squibb, Celery Allergen-Squibb, Cherry Allergen-Squibb, Cucumber Allergen-Squibb, Eggplant Allergen-Squibb, Grape Allergen-Squibb, Grapefruit Allergen-Squibb, Lettuce Allergen-Squibb, Onion Allergen-Squibb, Orange Allergen-Squibb, Parsnip Allergen-Squibb, Pea Allergen-Squibb, Peach Allergen-Squibb, Pear Allergen-Squibb, Plum Allergen-Squibb, Potato (Sweet) Allergen-Squibb, Potato (White) Allergen-Squibb, Prune Allergen-Squibb, Radish Allergen-Squibb, Raspberry Allergen-Squibb, Rhubarb Allergen-Squibb, Spinach Allergen-Squibb, Squash Allergen-Squibb, Strawberry Allergen-Squibb, Tomato Allergen-Squibb, Turnip Allergen-Squibb and Watermelon Allergen-Squibb:

The fruit or green vegetable is washed or peeled and the finely divided pulp extracted with 10 per cent. sodium chloride solution, which has been rendered faintly alkaline by the addition of sodium hydroxide. The salts are removed from the filtered extract by dialysis, and the dialyzate precipitated with acetone. The protein powder thus obtained is further dried with anhydrous acetone.

The following method is used for the preparation of Beef Allergen-Squibb, Biscuit Allergen-Squibb, Chicken Allergen-Squibb, Clam AllergenSquibb, Codfish Allergen-Squibb, Crab Allergen-Squibb, Goose Allergen-Squibb, Haddock Allergen-Squibb, Halibut Allergen-Squibb, Horse Allergen-Squibb, Lamb Allergen-Squibb, Lobster Allergen-Squibb, Mackerel Allergen-Squibb, Mutton Allergen-Squibb, Oyster Allergen-Squibb, Pork Allergen-Squibb, Salmon Allergen-Squibb, Shrimp Allergen-Squibb, Sweetbreads Allergen-Squibb, Turkey Allergen-Squibb and Veal Allergen-Squibb:

The material is finely ground and extracted with faintly alkaline 10 per cent. sodium chloride solution. The solution is dialyzed until free from salts and the concentrated dialyzate precipitated with acetone. The residue from the sodium chloride extraction is further extracted with 0.2 per cent. sodium hydroxide solution, filtered, and hydrochloric acid added until the iso-electric point of the dissolved protein is reached. The protein thus precipitated is dried with anhydrous acetone and then combined with the protein fraction obtained by the sodium chloride extraction.

The following method is used for the preparation of Cow's Milk (All Proteins) Allergen-Squibb, Goat's Milk (All Proteins) Allergen-Squibb, Human Milk (All Proteins) Allergen-Squibb:

The fresh milk is centrifuged to remove the fat and the separated milk is dialyzed until free from salts and lactose. The dialyzate is precipitated with acetone and filtered, and the precipitate dried with anhydrous acetone.

The product is a fine, white, odorless, tasteless powder; somewhat soluble in water and physiologic salt solution; more readily soluble in dilute sodium carbonate solution or in sodium bicarbonate solution.

The following method is used for the preparation of Cow's Milk Casein Allergen-Squibb:

Casein is precipitated from separated milk with dilute acid. The precipitate is redissolved in dilute sodium hydroxide, the solution filtered and the filtrate reprecipitated with acid. The entire operation is repeated until the precipitated casein is free from albumin. The purified casein is finally brought into solution with a minimum addition of alkali, and precipitated with acetone. The fine, white powder thus obtained is finally dried with anhydrous acetone.

The product is a white, odorless, tasteless powder; insoluble in water, salt solutions or dilute acids, but readily soluble in 0.5 per cent. sodium bicarbonate solution or in 0.2 per cent. sodium hydroxide solution. It gives strong biuret, Millon and xanthoproteic reactions.

The following method is used for the preparation of Cow's Milk Allergen-Squibb (Albumin):

Fresh cow's milk is centrifuged to remove the fat; the casein is precipitated by adding dilute acid; the mixture is filtered, and the filtrate is saturated with ammonium sulphate. The albumin is further purified by dialysis; the dialyzate filtered, and finally precipitated with acetone. The fine white powder obtained is finally dried with anhydrous acetone.

The product is odorless and tasteless; soluble in water, in physiological solution of sodium chloride, dilute acid and dilute alkali. It is not coagulated on heating.

The following method is used for the preparation of Egg White (All Proteins) Allergen-Squibb:

The whites of hen's eggs are dissolved in water, precipitated with acetone and the precipitate dehydrated with anhydrous acetone.

The following method is used for the preparation of Egg White Albumin Allergen-Squibb:

The ovomucin and globulin are removed from the beaten and strained whites of freshly laid hen's eggs by fractional precipitation with half saturated ammonium sulphate. The true albumin is isolated from the conalbumin and ovomucoid of the filtrate by repeated crystallizations with acid. The final albumin crystals are dissolved in water neutralized with sodium hydroxide solution and the solution dialyzed until free from salts. The dialyzate is reduced to a white powder by rapid dehydration in vacuo.

The following method is used for the preparation of Egg Yolk (All Proteins) Allergen-Squibb:

The washed yolks of hen's eggs are extracted with ether. The insoluble residue is dissolved in water and dialyzed until free from salts. The salt-free protein is filtered, then precipitated and dried with acetone.

The product is a faintly yellowish powder; odorless and tasteless; somewhat soluble in water; more readily soluble in dilute sodium bicarbonate solution or in sodium carbonate solution.

The following method is used for the preparation of Egg (All Proteins) Allergen-Squibb:

Egg White (All Proteins) Allergen-Squibb and Egg Yolk (All Proteins) Allergen-Squibb are combined in equal proportions.

The following method is used for the preparation of Wheat Gliadin Allergen-Squibb:

Patent wheat flour is extracted with purified petroleum benzin. The insoluble residue is extracted with 10 per cent. sodium chloride which has been made slightly alkaline with sodium hydroxide until free from salt soluble proteins. The residue is extracted with 80 per cent. ethyl alcohol and the filtered alcoholic extract evaporated in vacuo at a low temperature. The residue is redissolved in 80 per cent. alcohol, the solution filtered and the evaporation repeated. The final residue is dried with anhydrous acetone.

The product is a white, odorless, tasteless powder; insoluble in water, in dilute alkali or salt solution, but completely soluble in from 70 to 80 per cent. alcohol. It gives strong biuret, Millon and xanthoproteic reactions.

The following method is used for the preparation of Orris-Root Allergen-Squibb:

Peeled orris-root is ground to a fine powder in a ball mill, and the powder extracted with 1 per cent. sodium chloride solution. The filtered extract is precipitated with acetone and the precipitate dried with acetone.

The product is a fine, white, odorless, tasteless powder; somewhat soluble in water, and readily soluble in physiologic salt solution. It gives strong biuret, Millon and xanthoproteic reactions.

POLLEN PROTEIN ALLERGENS-SQUIBB.—Powders consisting of the sodium chloride-soluble protein of the isolated pollen from various species of plants.

Action and Uses.—See general article, "Pollen Extract Preparations," N. N. R., 1921, p. 239.

Dosage.—See general article, "Pollen Extract Preparations," N. N. R., 1921, p. 239. The Pollen Protein Allergens-Squibb are intended only for diagnosis.

Manufactured by E. R. Squibb & Sons, New York. No U. S. patents or trademarks.

Corn Pollen Allergen-Squibb.—A protein from the pollen of maize (*Zea mays*).

Goldenrod Pollen Allergen-Squibb.—The protein from the pollen of goldenrod (*Solidago* species).

Orchard Grass Pollen Allergen-Squibb.—The protein from the pollen of orchard grass (*Dactylis glomerata*).

Ragweed Pollen Allergen-Squibb.—The protein from the pollen of ragweed (*Ambrosia* species).

Rye Pollen Allergen-Squibb.—The protein from the pollen of rye (*Secale cereale*).

Timothy Pollen Allergen-Squibb.—The protein from the pollen of timothy (*Phleum pratense*).

Corn Pollen Allergen-Squibb, Goldenrod Pollen Allergen-Squibb, Orchard Grass Pollen Allergen-Squibb, Ragweed Pollen Allergen-Squibb, Rye Pollen Allergen-Squibb and Timothy Pollen Allergen-Squibb are prepared by the following method:

The pollen allergens are prepared by macerating the mechanically isolated pollen granules in 10 per cent. sodium chloride solution, which has been rendered faintly alkaline with sodium hydroxide. The filtered extract is dialyzed until free from salts, and the dialyzate is precipitated with acetone. The pollen protein thus obtained is dried with anhydrous acetone.

The products are white, odorless, tasteless powders; insoluble in water or dilute acids; readily soluble in physiologic salt solution, and dilute alkalis. They give strong biuret, Millon and xanthoproteic reactions.

NEOCINCHOPHEN.—See New and Nonofficial Remedies, 1921, p. 86.

Neocinchophen-Abbott.—A brand of neocinchophen-N. N. R.

Manufactured by The Abbott Laboratories, Chicago, under U. S. patent 1,075,171 (Oct. 7, 1913; expires, 1930), by license of The Chemical Foundation, Inc.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JANUARY 21, 1922

THE REFERENDUM ON ALCOHOL

In hearings before Congress, in the discussion of regulations issued by the Internal Revenue Department, in fact, in practically every discussion of prohibition, contradictory statements have been made as to the views of physicians on the value of alcoholic beverages as therapeutic agents. Several scientific organizations have adopted resolutions on the subject. So far as we know, however, no attempt has heretofore been made to ascertain, in a direct way, the opinions of any considerable number of physicians.

Moreover, the medical profession has been subjected to ridicule and criticism on account of the actions of a small number of its members who are abusing their privileges and who have assumed a position in the public eye not creditable to the profession as a whole. It therefore seemed worth while to obtain the views of a large number of physicians regarding the effect on medical practice of the present regulations; to discover whether or not conditions might be improved, and if so, how.

In order to secure the views of a representative portion of the medical profession a questionnaire was sent to more than one third—53,900—of the physicians of the United States. Of these, 43,900 were selected by arbitrarily taking every other name on the mailing list of The Journal. In towns in which there was only one physician, the questionnaire was sent to that physician. In addition, the questionnaire was sent to 10,000 physicians who were neither members of the organization nor subscribers to The Journal. These names were selected in a similar manner, but from the medical directory.

The excellent response, reaching 58 per cent. of replies and representing 21.5 per cent. of the physicians of the country, a percentage of return seldom attained by the questionnaire method, has been gratifying as an indication of the interest taken by our profession in this attempt to secure an adequate expression of its views.

As might have been expected, The Journal has been accused by many of preparing these questions wholly in the interest of prohibition, and an equal number have asserted just as emphatically that the questions were intended as the opening wedge for breaking down prohibition.

Some have taken exception to the word "necessary," claiming that no drugs are absolutely necessary, and that "desirable" or "advisable" would have been a better word for the purpose. This point was given careful consideration in formulating the question. Moreover, the word "necessary" is used in the National Prohibition Act itself (Section 7, Title II):

> . . . And no physician shall prescribe liquor unless after careful physical examination of the person for whose use such prescription is sought, or if such examination is found impracticable, then upon the best information obtainable, he in good faith believes that the use of such liquor as a medicine by such person is *necessary* [italics ours] and will afford relief to him for some known ailment.

The word "advisable" or "desirable" would have been as much too mild as "necessary" is, perhaps, too strong; "necessary" does not mean indispensable, and it was properly regarded by practically all who answered the questionnaire.

The criticism has been made that the question as to whether whisky is a necessary therapeutic agent is a scientific one and cannot be decided by resolutions or by votes. This is true; and the referendum was to secure the *opinions* of physicians on the subject, not to decide a scientific question. It is granted that the physiologic effects of alcohol are matters which may be determined in the laboratory; but therapeutics is the application of such findings to the treatment of disease as determined by the opinions of physicians. This and the experience of physicians—for the opinions necessarily are based on experience and observation—may be determined, as has been done, by the questionnaire.

Approximately one third of those replying commented on the general prohibition situation, on the restrictions and regulations, or on some allied topics. The more interesting of these comments have been published in connection with reports on the individual states. Many of the views brought out in the comments are of value to those who are interested in the subject from the sociological or from any other point of view. For instance: Since national prohibition went into effect, judging by these comments there has apparently been a reaction against prohibition in many states in which prohibition by state law had become accepted and effective. This is especially noticeable in the comments from Colorado, Kansas, Nebraska, South Dakota, and even from Maine. From the comments, one must come to the conclusion that home-made, illegally distilled or chemically compounded liquors—so-called "moonshine"—are being extensively used in states in which this was not the case three or four years ago. What has produced this apparent change?

The questionnaire has brought out definitely the fact that the present regulations governing the medicinal use of alcoholic beverages are not satisfactory—in fact, many physicians declared them "intolerable." Many who were convinced that these drugs were not necessary therapeutically were emphatic in stating that other physicians who believed them necessary were entitled to have their views respected, and were warranted in efforts to have the drugs made available without incurring the odium attaching under the present regulations.

Evidently most physicians are satisfied with the control of narcotics as regulated under the Harrison Narcotic Law, and many expressed a desire that the control of alcoholic liquors follow such lines. A decidedly large number of physicians suggest that the government take over the whisky, including its storage and sale, and supply it in sealed packages—say of 8, 16 and 32 ounces—for medicinal use only, and at a fixed price, under regulations similar to those of the Harrison Narcotic Law, thus making available to physicians a drug of dependable quality.

HELIOTHERAPY AND RICKETS

There has been exceptional interest during recent months in the problems of rickets. From this it must not be inferred that the widely prevalent disease has not in the past given occasion for studies of its etiology and pathogenesis. On the contrary, rickets has long been the subject not only of experimental investigation, but also of the most diverse speculation. The unquestioned success that has attended the consideration of beriberi and scurvy from the standpoint of their relation to dietary deficiencies has emboldened students to approach the problems of rickets likewise with due appreciation of the factors that recent advances in the science of nutrition have brought into prominence. The upshot of all this has been the demonstration that rickets, or at least a closely related pathologic condition, can be induced in experimental animals through feeding unsuitable diets, and that cures can be effected by remedying the dietary defects without further regard to other environmental factors.[1]

How beneficial these researches are likely to be for the therapy of rickets through dietary measures was pointed out in these columns in a recent review of the rôle of cod liver oil as a remedial agent.[2] This food has an undeniable specific effect which has now been clearly demonstrated on both animals and human patients. The new enthusiasm for the antirachitic virtues of cod liver oil and other dietary agents should not be allowed to overshadow entirely the even more recent demonstrations of what heliotherapy can accomplish in the cure of rickets. Undeniable evidences of the potency of sunlight were put forward years ago.[3] Attention was focused more directly on the subject by Huldschinsky and others,[4] who reported the curative effects of treatment with the ultraviolet ray in many children exhibiting all clinical manifestations of rickets. The assertions thus made have recently been verified by the more elaborate evidence from experiments on animals rendered demonstrably rachitic through dietary errors.

The first demonstration by means of the roentgenograph, which prevents the mistakes of subjective impressions, that sunlight alone exerts a curative action in rickets was presented in THE JOURNAL by Hess and Unger [5] only a few months ago. They pointed out the possible rôle of actinic rays in an interpretation of the seasonal variation of the disease, and expressed the opinion that it is the dominant factor in this incidence. Hess and Unger do not imply that diet is not of importance in the etiology of rickets, but rather that a hygiene factor—sunlight—also needs to be taken into account. Hess, Unger and Pappenheimer [6] have now furnished the corroboratory demonstration that sunlight has a marked effect on the bony development of rats. When the animals have an abundance of exposure to sunlight they keep in health under regimens which are sufficiently deficient in phosphorus, for example, to induce rickets when they are kept in subdued light. Similar experiences have been reported by Shipley, Park, Powers, McCollum and Simmonds,[7] who find that the changes produced by sunlight in the skeleton do not differ in any important respect from the changes produced when the animals are kept in room light but on a diet supplemented by cod liver oil. Cod liver oil contains something that is essential for optimal cellular function. Light also contains something that is essential for optimal cellular function. Cod liver oil or light, when made available to an organism previously deprived of either, permits the organism, as Park and his associates remark, to put into successful operation adaptations or defense mechanisms which otherwise would have been ineffectual. According to them, further, either cod liver oil or light meets the defects in the composition of the diet, not directly by

1. Experimental Rickets, editorial, J. A. M. A. **76**: 933 (April 2) 1921; Further Facts About Rickets, ibid. **76**: 1844 (June 25) 1921. Mellanby, E.: Experimental Rickets, Special Report Series No. 61, Medical Research Council, London, 1921.

2. More About Cod Liver Oil in Therapy, editorial, J. A. M. A. **77**: 2122 (Dec. 31) 1921.

3. Palm, T. A.: Practitioner **45**: 270, 321, 1890.

4. Huldschinsky, K.: Deutsch. med. Wchnschr. **45**: 712, 1919; Ztschr. f. orthop. Chir. **39**: 426, 1920. Putzig, H.: Therap. Halbmonatsh. **34**: 234, 1920. Riedel, G.: München. med. Wchnschr. **67**: 838, 1920. Hess, A. F., and Unger, L. J.: Am. J. Dis. Child. **22**: 186, 1921.

5. Hess, A. F., and Unger, L. J.: The Cure of Infantile Rickets by Sunlight, J. A. M. A. **77**: 39 (July 3) 1921.

6. Hess, A. F.; Unger, L. J., and Pappenheimer, A. W.: Experimental Rickets, III. The Prevention of Rickets in Rats by Exposure to Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 8 (Oct.) 1921.

7. Shipley, P. G.; Park, E. A.; Powers, G. F.; McCollum, E. V., and Simmonds, Nina: The Prevention of the Development of Rickets in Rats by Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 43 (Oct.) 1921. Powers, G. F.; Parke, E. A.; Shipley, P. G.; McCollum, E. V., and Simmonds, Nina: The Prevention of the Development of Rickets in Rats by Sunlight: Studies on Experimental Rickets, XIV, THE JOURNAL, this issue, p. 159.

supplying to the body either calcium or phosphorus, but indirectly by so raising the potential of cellular activity as to secure the most efficient utilization possible of those substances available in the body which are directly or indirectly concerned with ossification and calcification.

That metabolic changes in the animal body can be brought about by the solar rays is further indicated by studies of the composition of the blood. Howland and Kramer [8] showed that the inorganic phosphorus of the serum of infants suffering from active rickets is reduced, and that during the process of healing, especially on the administration of cod liver oil, the phosphorus content gradually rises to normal. According to Hess and Gutman,[9] sun treatment of infants suffering from rickets not only brings about a cure of the rachitic lesions, but in so doing occasions chemical changes in the blood similar to those noted when the cure is effected by cod liver oil. As the investigators remark, this affords testimony that the curative process occasioned by these divergent therapeutic agents is fundamentally the same. Heliotherapy has thus in one case at least been put upon the scientific basis of demonstrable chemical changes in the organism affected.

THE BRITISH TRENCH FEVER COMMITTEE REPORT

Among the novel chapters of modern medicine dealing with insects as a menace to mankind, the story of the relation of body lice to the genesis of trench fever affords many facts of unusual interest. The disease was recognized in the German army early during the World War by His, who termed it Wolhynian fever. During the winter of 1916, the occurrence of a comparable disorder became apparent in the British army, not only on the western front but also in Saloniki and far-away Mesopotamia. It was also prevalent in the French armies. After our entrance into the war, the Medical Research Committee of the American Red Cross realized that the mode of transmission of trench fever was one of the most important problems for investigation in connection with the loss of man power in the fighting forces. The consequent organization of a trench fever committee involving cooperation between British and American scientists under the leadership of Dr. Richard P. Strong led to a brilliant series of investigations demonstrating conclusively that trench fever is a specific infectious disease transmitted by the louse. This experimental research was rendered memorable not only by the significant character of the findings but also by the self-sacrificing spirit of the numerous volunteers who freely submitted to inoculation tests because as yet no laboratory animal is known to be susceptible to the disease.

The report of the American commission was formulated in 1918.[1] It came to the practical conclusion that the organism causing trench fever is a resistant filtrable virus, and furthermore, that the usual manner of infection is by the bite of the louse. Recently the final report of the British War Office Trench Fever Investigation Committee has been published.[2] In many respects it corroborates and supplements the earlier conclusions. The British report differs in regarding the etiologic agent as neither filtrable nor ultramicroscopic, which the word filtrable is usually supposed to imply. The infective factor is rather regarded as a species of *Rickettsia* related to the micro-organism found in typhus fever.[3] It must be admitted, however, that the element of hypothesis has by no means yet been eliminated from the problem. The organisms have never been cultivated outside the body.

The infective organism is present in the whole blood, and consequently may be found in all of the tissues of the body. The British evidence seems to be in favor of the organism's being an extracorpuscular rather than an intracorpuscular parasite. The smallest quantity of whole blood that has given rise to the disease was 0.5 c.c. (8 minims). The blood is infective from the first day of the disease, and in one case was found to be still infective after 443 days. The microscopic examination of the blood has not as yet revealed the organism, or at least has not differentiated it from other granules present in blood. According to Bruce's report, there is some evidence that the organism may leave the body in the sputum and urine; but the chief and only way that has any practical significance is by means of a blood-sucking insect, the louse. There is no evidence that infection takes place through food, drink or air, but only by inoculation of the organism by means of this insect.

In contradistinction to the American report, the British Commission is of the opinion that infection by the bites of lice is quite exceptional, by far the commonest method involving contact of abraded surfaces of the skin, in scratches or other small wounds with the excreta of the louse. After the latter has fed on a patient, from five to nine days elapse before the excreta become infective. The infective material retains its virulence in louse excreta for at least four months. There is no transmission of the organism of trench fever from infected lice through the egg to their offspring. Bruce asserts that with the data at our disposal it is not possible to give a categorical answer to the question whether or not one attack of trench fever confers immunity. Taking everything into considera-

8. Howland, John, and Kramer, Benjamin: Calcium and Phosphorus in the Serum in Relation to Rickets, Am. J. Dis. Child. **22**: 105 (Aug.) 1921.

9. Hess, A. F., and Gutman, P.: The Cure of Infantile Rickets by Sunlight as Demonstrated by a Chemical Alteration of the Blood, Proc. Soc. Exper. Biol. & Med. **19**: 31 (Oct.) 1921.

1. Trench Fever Report of Commission, Medical Research Committee, American Red Cross, Oxford University Press, 1918.

2. Bruce, D.: Trench Fever, Final Report of the British War Office Trench Fever Investigation Committee, J. Hyg. **20**: 258 (Nov.) 1921.

3. Arkwright, J. J.; Bacot, A., and Duncan, M.: The Association of Rickettsia with Trench Fever, J. Hyg. **18**: 76, 1920.

tion, it is probable that one attack does not confer immunity as this is understood, for example, in measles, scarlet fever or smallpox; rather, it confers a partial and limited immunity, as in influenza or pneumonia.

Trench fever has disappeared with the end of the war. Nevertheless, the harm that it wrought should not so soon be forgotten. The discovery of this unexpected disease has shed new light on the problems of insect-borne maladies. Science should not forget the silent heroism of the men who voluntarily helped to make the studies a success. Many of them contracted trench fever. "Without the volunteers," the British report certifies, "nothing could have been achieved. These men, unable through age or other infirmities to go to the front, bravely did their bit for the sake of their comrades in the trenches, by allowing themselves to be inoculated with an often tedious and painful disease. The army owes them the deepest gratitude."

Current Comment

THE EXPERIMENTAL PRODUCTION OF CANCER BY CHEMICAL IRRITANTS

We have already called attention to the great importance of the recent successful attempts to produce cancer experimentally in animals;[1] these promise to open up new methods for the study of cancer that will greatly advance our knowledge, at least of the etiology, of malignant growth. It is now possible to produce at will in animals true malignant tumors of their own tissues, which is a great advance over the study of transplanted tumors from other animals, since the latter is not truly a tumor of the animal bearing it, as it is not formed from the tissues of this animal. Credit is due to Yamagiwa and Ichikawa of the University of Tokyo for the first successful production of cancer by applying tar to the skin of rabbits. In addition, they produced some nonmalignant epithelial growths in the mammary glands of rabbits by injecting tar dissolved in lanolin, and in one case a sarcoma was produced which caused secondary growths to appear in the lungs.[2] Rabbits are among the domesticated animals that are least likely to develop cancer spontaneously, and hence it is not surprising that the incidence of tumors following these experimental procedures has been low, only sixteen cancers being obtained with 178 animals. Using the more susceptible white mouse, Fibiger obtained carcinoma in no less than twenty-four of thirty mice painted with tar for 100 days or more, thus rendering this method available as a ready source of true cancers for experimental study. A further corroboration and extension of this line of work has now been presented by Bloch and Dreifuss[3] of Zurich, whose work marks a distinct advance in that they have begun to study the chemical nature of the substance present in coal tar which leads to cancer formation. They find that the ingredients of lower boiling point, including many phenols and bases, do not stimulate the epithelium to malignant proliferation. This effect depends on a substance which boils at more than 300 C. and which retains its activity after distillation, and with this fraction they were able to produce in 100 per cent. of their mice large, rapidly growing, malignant epithelial tumors of the skin. Many of these animals have shown metastases in the lymph glands and the lungs, which is especially significant since, in the large number of spontaneous skin cancers of mice studied by Slye, Holmes and Wells,[4] metastases were rarely observed. Evidently the cancers produced by the extremely stimulating components of tar are distinctly more rapidly growing and malignant than those arising in ordinary traumatism. The experiments of the Swiss investigators bring us near the point at which we can make accurate studies of the quality and quantity of a chemically pure agent which can cause epithelium to proliferate in the form of true carcinoma.

1. The Experimental Production of Cancer, editorial, J. A. M. A. **76**: 1404 (May 21) 1921; Experimental Production of Tar Cancer, ibid. **77**: 127 (July 9) 1921.
2. Yamagiwa has recently summarized his observations: Ueber die künstliche Erzeugung von Teercarcinom und -sarkom, Virchows Arch. f. path. Anat. **233**: 235, 1921.
3. Bloch and Dreifuss: Schweiz. med. Wchnschr. **51**: 1033, 1921.
4. Slye, Maud; Holmes, H. F., and Wells, H. G.: J. Cancer Res. **6**: 57 (Jan.) 1921.

THE VALUE OF NEGATIVE EVIDENCE

A mass of entirely accurate data which have failed to prove or support the hypothesis under investigation accumulates in every place where research work is done. A problem, like an unexplored mountain peak, offers many routes for attack, and at the outset it is not always possible for even the keenest guide to determine which is the one that will lead to the goal. Often several starts are made, following previous trails for a way, and then turning off along promising leads, only to find that each ends blindly at a point where no further progress is possible. Sometimes the objective is attained, and then if the route is sufficiently described, any competent follower can reach the same heights. Often, however, the end sought is never reached despite many explorations, perhaps because means or methods are not then adequate, although they may become so later. What should be done with the information that has been so painfully acquired during the fruitless efforts? Commonly, if success has not been achieved, no one learns of the failure, and yet the experience obtained in unsuccessful efforts would be of the greatest value to the next explorer who would try to reach the unattained summit. Without knowledge of previous failures it is probable that he, too, will waste time and resources following the same blind leads that tempted his predecessors. The reports of failures should briefly indicate the routes followed, the methods used, and the reason why progress was blocked. The next explorer will then know whether he may succeed by following the previous trails and overcoming the obstacles that checked his predecessors, or whether he must seek an entirely new route. Knowledge advances largely by the method of trial and error, and if the errors found are not known they are certain to be repeated.

Association News

A "MEDICAL ADVISORY COMMITTEE"

A Circular Letter and a Proposed Resolution

The following is a copy of a circular and of preambles and resolutions which have been sent by a so-called "Medical Advisory Committee" to constituent state and component county societies for adoption and to editors of medical journals for publication:

MEDICAL ADVISORY COMMITTEE

F. H. McMechan, M.D., Secretary
Lake Shore Road, Avon Lake, Ohio

My dear Secretary:—

As the fate of the Practice of Medicine is at stake, this plea is being sent to every County Medical Society in the United States. Kindly submit it at once to your County Society for consideration and action.

To Members of the Medical Profession:—

The Public and Profession are being sold out to—

(1) Foundation control of "full time" medical education.
(2) Lay board domination and the "closed shop" hospital.
(3) Socialized state medicine, subsidized community health centers and hospitals under political or university control.
(4) Legislative dictation of therapy and fees.
(5) Demoralization of medical standards by the expansion of cults.
(6) Exploitation of the specialties by lay technicians.

These menacing movements will succeed unless they are combated by a powerful and united opposition. Your so-called leaders are either openly fostering these destructive forces, or more subtly giving them full fling by camouflaged neutrality.

The American Medical Association belongs to you and you are entitled to have it effectively protect your vital interests. Let your action on this nation-wide referendum carry your mandate.

In the present crisis it is up to every County Society to instruct all Delegates to the A. M. A. meeting at St. Louis, Mo., May 22-26, 1922, to vote for—

(A) A change of policy and leadership in the A. M. A. pledged to the immediate abolition of the evils mentioned, and constructive protection of medical interests.
(B) The repeal of multiple representation and plural voting privilege by Section Delegates.
(C) The election of Trustees for a period of two years; five Trustees to be elected one year, and four the next, to prevent the Trustees from perpetuating oligarchical rule.

Unless there is a drastic change in the policy and leadership of the A. M. A. the public and profession at large will continue to be misled and misrepresented in the solution of the most pressing problems affecting public welfare and the practice of medicine.

The members of the Scientific Sections are already represented by the Delegates of their respective State Societies, and the voting of Section Delegates is multiple representation, and as such undemocratic and unfair. Unless this plural voting privilege is repealed, the 15 Section Delegates will continue to negative and outvote the Delegates of 15 State Societies having only one Delegate each.

At present three of the nine A. M. A. Trustees are elected each year for a period of three years. There is a proposal before the House of Delegates, introduced at the Boston meeting (1921), to reduce the number of Trustees to seven and have the term of office seven years. Unless the proposed election of Trustees for seven years is nipped in the bud, the A. M. A. will be relegated to "gang rule" for all time to come.

At the Boston meeting of the A. M. A. (1921) those representing the rank and file of the profession lacked only 7 votes of being in control of the House of Delegates, and would have been able to initiate a policy of public and medical protection, if they had not been outvoted by the Section Delegates. In this connection the following editorial note of warning is of pertinent interest:—

. . . "For the benefit of the large number of State Journals that exchange with us, we desire to call attention to the necessity of determining where the Delegates to the A. M. A. stand on many questions of vital interest to the welfare of the medical profession at large. We have had examples of what some of the leaders in the profession would do to us if they have their way. It is time to know something about the attitude of those whom we send to represent us at the great parent organization, which supposedly represents the voice of a very large majority of the medical men in this country. The trouble of it is we sometimes are betrayed, and if necessary, in order to have our wishes respected, our Delegates ought to go instructed."

(*Jour. Indiana State Medical Society*, November, 1921).

This warning is all the more necessary since the Board of Trustees, at the Boston meeting (1921), reported that they had under consideration the advisability of the A. M. A. paying the expenses of the A. M. A. Delegates. This simply means further subsidizing of the Delegates to control their votes and to thwart the interests of the rank and file. Each State Society, that values representation by its own Delegates, must take action against this political maneuver.

This is your opportunity of putting your power of attorney into the keeping of only such Delegates to the St. Louis meeting, who will openly avow their stand on all vital matters, who will fight your battles and to whom your interests will be a sacred trust.

Self-protection is the first law of life. Act now!

Fraternally yours,

MEDICAL ADVISORY COMMITTEE.
(*Signed*) F. H. McMechan, M.D., Secretary.

RESOLUTION

Whereas the Public and Profession are being sold out to

(1) Foundation control of "full time" medical education.
(2) Lay board domination and the "closed shop" hospital.
(3) Socialized state medicine, subsidized community health centers and hospitals under political or university control.
(4) Legislative dictation of therapy and fees.
(5) Demoralization of medical standards by the expansion of cults.
(6) Exploitation of the specialties by lay technicians.

Therefore Be It Resolved that all the Delegates of the..... State Medical Society to the A. M. A. meeting in St. Louis, Mo., May 22-26, 1922, are hereby instructed to vote for—

(A) A change of policy and leadership in the A. M. A. pledged to the immediate abolition of the evils mentioned, and constructive protection of medical interests.
(B) The repeal of multiple representation and plural voting privilege by Section Delegates.
(C) The election of Trustees for a period of two years; five Trustees to be elected one year, and four the next, to prevent the Trustees from perpetuating oligarchial rule.

Be It Further Resolved that copies of these Resolutions be sent at once to the Official Organ of the..... State Medical Society, the Journal of the A. M. A. and the Medical Advisory Committee.

(*Signed*)

Passed.....
(Date)
.....Sec'y.

A number of copies have been forwarded to this office. In the circular as sent to medical editors, the first paragraph is modified to read:

"As the fate of the practice of medicine is at stake, this plea is being sent to every medical editor and county medical society of the United States. Kindly submit it at once to the readers of your journal for consideration and action."

WHAT IS THE MEDICAL ADVISORY COMMITTEE?

The following correspondence needs no comment:

LETTER FROM THE EDITOR OF THE JOURNAL TO THE SECRETARY OF THE "MEDICAL ADVISORY COMMITTEE"

Chicago, January 9, 1922.

Dear Doctor McMechan:

We are considering the publication of the circular and resolutions which are being circulated over your signature. Will you let us know who constitute the advisory committee, so that their names can be published at the same time?

Yours very truly,

(*Signed*) GEORGE H. SIMMONS.

REPLY FROM THE SECRETARY TO THE EDITOR

January, 12, 1922.

My dear Dr. Simmons,

In reply to your recent letter will you kindly let me know just what the object of The Journal A. M. A. is in desiring the personnel of the Medical Advisory Committee for publication?

Awaiting your further pleasure, I am,

Very truly yours,

(*Signed*) F. H. McMECHAN.

LETTER FROM THE EDITOR TO THE SECRETARY

Chicago, January 13, 1922.

Dear Doctor McMechan:

In reply to my request for information as to who constitute the "Advisory Committee" you ask us to let you know "just what the object of The Journal A. M. A. is in desiring the personnel of the Medical Advisory Committee for publication."

The object is to be able to answer the scores of queries that are coming to us with the circular which you sent out. The questions asked are: "What is this Advisory Committee?" "Who constitute this Advisory Committee?" "By whom was the Advisory Committee appointed" and "To whom, or to what, is this Committee advisory?" All we ask, however, is simply the names of those composing the committee.

Yours very truly,

(*Signed*) GEORGE H. SIMMONS.

REPLY FROM THE SECRETARY TO THE EDITOR

January 16, 1922.

My dear Dr. Simmons:

I have been requested by the Medical Advisory Committee to inform you that in printing its circular and resolution that the names of Dr. Edward H. Ochsner, of Chicago, and Dr. James F. Rooney, of Albany, N. Y., may be appended respectively as Chairman and Vice Chairman, besides my own name as Secretary.

Requests for any further information if sent to me will be answered direct in behalf of the Medical Advisory Committee.

Very cordially yours,

(*Signed*) F. H. McMECHAN.

THE OHIO STATE MEDICAL ASSOCIATION

LETTER FROM PRESIDENT OF THE OHIO STATE MEDICAL ASSOCIATION

THE OHIO STATE MEDICAL ASSOCIATION
OFFICE OF THE PRESIDENT
187 East State St., Columbus, Ohio

December 30, 1921.

To Presidents and Secretaries of County Medical Societies:

You have undoubtedly received a circular communication accompanied by a form resolution, from the "Medical Advisory Committee" signed by "F. H. McMechan, M.D., Secretary."

Due to the fact that Dr. McMechan is employed as medical editor of the Ohio State Medical Journal there may be some misunderstanding regarding the status of the "Medical Advisory Committee," there being no committee of that name within the State Association. Inasmuch as the origin, personnel, activities, functions and objects of the "Medical Advisory Committee" have not been made known, and in view of the fact that the statements set forth in the communication and resolution are in the nature of general conclusions rather than information or positive facts, I, as president of the Ohio State Medical Association, respectfully suggest that action on the resolution be deferred until inquiry and investigation have been made.

I am quite sure that the members of Council of the State Association, which meets in Columbus in the near future, will give careful thought and study to the propositions set forth in the communication of the "Medical Advisory Committee," after which you will be advised of findings and action of the Council.

You may be assured that the officers, Council and committee of the Ohio State Medical Association are keenly alert to existing conditions and definite problems with which the medical profession is confronted, and that those who have been chosen by you to formulate policies, promulgate activities and to investigate such conditions are conscientiously and constantly striving for the advancement of the profession and for a proper recognition for it by the public and the state.

You may be assured that the importance of any and all questions affecting medical practice is not being neglected or overlooked by the officers, members of Council and the committees of the State Association.

Yours sincerely and fraternally,

(*Signed*) WELLS TEACHNOR, M.D., President.

ACTION OF THE COUNCIL OF THE OHIO STATE MEDICAL ASSOCIATION

THE OHIO STATE MEDICAL ASSOCIATION
OFFICE OF COUNCILOR

January 12, 1922.

To Presidents and Secretaries of County Medical Societies and Academies of Medicine:

The Council of the Ohio State Medical Association at its meeting in Columbus, on January 8, endorsed and approved the contents and policy of the communication which you received from Dr. Wells Teachnor, President of the Ohio State Medical Association under date of December 30, regarding the activities and propaganda emanating from the so-called "Medical Advisory Committee."

After careful consideration and thorough discussion, the Council wishes to emphasize to you and through you, to the entire membership of the Ohio State Medical Association, that individually and collectively, we know that the officials and committees of the Ohio State Medical Association are working for and serving the best interests of the profession in Ohio; that whatever problems exist, with relation to the policies and personnel of the leadership in the A. M. A. with relation to medical education, foundation subsidies, the interrelation of the state medical societies, questions of state medicine, legislation, medicopolitical situations, cults, and other propositions which were set forth in the circular recently issued by the "Medical Advisory Committee" are being and have been given conscientious, consistent attention by your Council, the officers and committees of your State Association.

We know that solution of any and all such problems can best be arrived at THROUGH THE PROPER ORGANIZATION CHANNELS, and that you may be assured of all possible interest and attention to these problems by your Council, officers and committees, and by your delegates to the Ohio State Medical Association and to the A. M. A. to the end that your ideas and wishes, and those of the great majority of our membership are faithfully carried out.

Communications from the "Medical Advisory Committee" represent the opinions and expressions of INDIVIDUALS. Statements on behalf of that group signed by F. H. McMechan, M.D., should be construed only as INDIVIDUAL EXPRESSIONS and with no authority or official sanction from the Ohio State Medical Association, under which Dr. McMechan is employed as Medical Editor of The Journal of the Association.

This letter is a disavowal of any official responsibilities for the utterances of Dr. McMechan.

Very sincerely,

COUNCIL OF THE OHIO STATE MEDICAL ASSOCIATION,

(*Signed*) WELLS TEACHNOR, President. (*Signed*) S. J. GOODMAN, Secretary of Council.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Hospital News.—It has been decided to spend $100,000 on improvements and new buildings at the Napa State Hospital. The cottage of the medical superintendent will be improved at an estimated cost of $1,700.

Popular Lectures at Leland Stanford Junior University School of Medicine.—On January 13, a course of popular medical lectures was begun at Leland Stanford Junior University School of Medicine. The topics and speakers for the proposed series of lectures include: January 13, "The Basis of Modern Medicine," by Dr. William Ophuls; January 27, "The Attitude of the Public Toward the Blind," by Miss Katherine Foley, state teacher of the blind; February 10, "The Treatment of Deformities Following Infantile Paralysis," by Dr. Arthur L. Fisher; February 24, "The Control of Botulism," by Dr. Ernest C. Dickson; March 10, "The Truth About Vivisection," by Mr. Ernest H. Baynes, general manager of the Meriden Bird Club, under the auspices of the California Society for the Promotion of Medical Research; March 24, "Present Day Methods of Roentgen-Ray Diagnosis," by Dr. William Edward Chamberlain.

CANAL ZONE

Medical Association of the Isthmian Canal Zone.—At the annual meeting of the association held at Ancon in December, 1921, under the presidency of Dr. W. Troy Earhart, the following officers were elected for the ensuing year: president, Dr. Cornelius D. Briscoe; vice president, Dr. Nathan B. Kupfer, and secretary-treasurer, Dr. Leland S. Chapman, all of Ancon.

CONNECTICUT

Connecticut Society for Mental Hygiene.—The fourteenth annual meeting of the society was held in Bridgeport, Dec. 2, 1921. Dr. Arnold L. Gesell, Yale University, New Haven, Dr. Frank E. William, National Committee for Mental Hygiene, and Miss Mary Jarrett, Smith College School of Psychiatric Social Work, were the speakers. Three honorary members were elected to the society, namely: Mr. Clifford W. Beers, the originator of the mental hygiene movement; Dr. Thomas W. Salmon, medical director of the National Committee for Mental Hygiene, New York City, and Dr. C. Floyd Haviland, superintendent of the Connecticut State Hospital, and chairman of the Committee for Mental Hygiene for the State of New York.

GEORGIA

Personal.—Dr. Marcus F. Carson, Griffin, has been appointed a member of the state board of medical examiners to succeed the late Dr. Henry W. Terrell.

Hospital News.—The Grady Hospital Annex for negroes of Atlanta and Fulton counties was formally opened, recently. A modern well equipped laboratory, 200 beds, a nurses' home and a clinic were included in the purchase, which cost the city more than $100,000.

Presentation of Pictures of Dr. Long.—Dr. Joseph Jacobs has presented the Carnegie Library of Atlanta with two pictures of the late Dr. Crawford W. Long; one is a plaster cast of the bronze medallion erected on the campus of the University of Georgia, recently, by Dr. Jacobs, and the other an oil painting by Miss Emma Long, youngest daughter of Dr. Long.

Fulton County Medical Society.—At the annual dinner of the society given at Atlanta, January 5, honor certificates were presented to all members who have been affiliated with the society continuously for twenty-five years or more. The speaker of the evening was Dr. James S. McLester, Birmingham. The recently elected president of the society, Dr. Rufus T. Dorsey, acted as toastmaster and also delivered the inaugural address.

ILLINOIS

Personal.—Dr. Harry W. Dale, Chicago Heights, is recovering from injuries received when he was recently attacked by robbers when, in response to a telephone call, he attempted to make a visit at a house which proved to be vacant.

Hancock County Society Takes Action.—The Hancock County Medical Society by unanimous vote agreed to use its influence to prevent the reelection to the United States Congress of its present representative of that district, because of his activities on the Sheppard-Towner bill. The county society also took action disapproving laws that would result in meddlesome interference by federal and state authorities in the private practice of medicine.

Survey of Milk Pasteurization Plants.—The state department of public health is conducting a survey for the purpose of making a complete and up-to-date directory of milk pasteurization plants in Illinois. A circular letter and questionnaire, asking for the names and addresses of plant owners, have been mailed to local health officers in each of the nearly 1,300 incorporated communities in the state. When the returns from this preliminary step have been tabulated an effort will be made to determine the capacity of each pasteurization plant now in operation. Efforts will also be made to make pasteurization a more universal practice in Illinois than it is at present.

Isolation Hospital for School.—Announcement has been made of the completion of isolation quarters for patients suffering with communicable diseases at St. Alban's School, Sycamore. The directors of the school recently proposed to advance a considerable sum toward the erection of a contagious disease hospital for De Kalb County provided the county advisers would appropriate sufficient funds to pay the additional costs. While this proposition is under consideration it seemed advisable to provide the local isolation quarters referred to above although the school is at present free from contagious diseases. The school authorities have kept in close communication with the state department of public health in regard to these matters.

Chicago

Jail Sentence for Violation of Harrison Narcotic Law.—It is reported that Dr. Edward S. McCann was sentenced to six months in jail by the federal judge for having violated the Harrison Narcotic Law, by selling drugs to an alleged addict.

INDIANA

Health Board of Physicians.—The mayor of Columbus has appointed a city health board made up entirely of physicians. The new board includes Dr. Lawson E. Bracken, secretary, Dr. Raymond M. Tilton and Dr. William H. Butler.

Leper Declared Cured.—The leper, who was discovered in Indianapolis with anesthetic leprosy about two years ago, placed under quarantine by the state board of health and treated with ethyl ester of chaulmoogra oil, has been pronounced cured and discharged from quarantine. It is said that the most careful search does not find in the nose or elsewhere the lepra bacillus, which at the beginning of the treatment was easily discovered, every slide showing the organism.

IOWA

New State Board Secretary in Iowa.—Dr. Rodney P. Fagen, Des Moines, has been appointed secretary of the Iowa State Board of Health and Medical Examiners, succeeding Dr. Guilford H. Sumner who resigned. Dr. Fagen assumed the office, January 1.

MAINE

Epidemic of Diphtheria.—The town of Prentiss has had an epidemic of diphtheria which is attributed to carelessness of the parents of the first child taken with the disease, who neglected to call a physician. The family followed the advice of the leader of a roving sect known as the "Holy Rollers," who said that medicine was unnecessary and that the child could be cured by faith alone. The child died and within a few days there were ten cases of diphtheria in the immediate vicinity. The county health authorities intervened and now have the epidemic under control.

V. 192

MARYLAND

Clinic at the Johns Hopkins Hospital.—Members of the American Gynecology Club of the United States and Canada attended clinics at the Johns Hopkins Hospital, January 13.

Personal.—Dr. William B. Dalton has been appointed superintendent of the South Baltimore General Hospital, succeeding Dr. Robert W. Johnson, recently resigned.——Dr. Pasteur Vallery-Radot of Paris, France, a grandson of Dr. Louis Pasteur, recently spent a day in Baltimore visiting the Johns Hopkins Hospital, during the meeting of the American Gynecological Club.——Edward M. East, Ph.D., professor of experimental plant morphology at Harvard University, gave a lecture on "The Population Problem in Its Relation to Public Health," January 16, at the School of Hygiene and Public Health, Johns Hopkins University.

MASSACHUSETTS

Public Lectures at Harvard University.—The faculty of medicine of Harvard University, Boston, has announced a course of eighteen public lectures to be given at the Medical School of Harvard University, during the winter and spring.

Hospital News.—The contract has been awarded for alterations and additions to the outpatient department of the City Hospital, Boston, at a cost of $493,000. When enlarged the building will accommodate 1,000 patients; its present capacity is 500.

Cutter Lectures on Preventive Medicine.—Dr. Charles Wardell Stiles, Washington, D. C., chief, division of zoology, Hygienic Laboratory, U. S. Public Health Service, delivered the Cutter Lectures on Preventive Medicine, January 17 and 18, at the Medical School of Harvard University, Boston.

Personal.—Dr. Robert N. Nye, Brookline, former research assistant to Dr. Frank B. Mallory, has been made assistant director of Division of Biologic Laboratories of the Massachusetts State Department of Public Health.——Mayor Peters has approved the appointment of Dr. Hugo Mella, Cambridge, as pathologist at the Long Island Hospital, Boston.

Conference of Organizations Caring for Disabled Veterans.—The first general conference aiming at greater cooperation between organizations caring for disabled veterans in government hospitals and vocational training in Massachusetts was held last month. It was attended by officials of the Veterans' Bureau, American Legion and the Red Cross. These meetings will be held semimonthly.

Dr. Bowers Resigns.—Dr. Walter P. Bowers, who, since 1913, has acted as secretary of the Massachusetts Board of Registration in Medicine, has resigned from that position to accept the editorship of *The Boston Medical and Surgical Journal*. His resignation was regretfully accepted. The board elected Dr. Charles E. Prior, Malden, chairman; Dr. Samuel H. Calderwood, Boston, secretary, and Dr. Nathaniel R. Perkins, Boston, assistant secretary.

MICHIGAN

Organization of Clinics.—The clinics of Detroit have been organized and a weekly program is being published in the *Wayne County Bulletin*, the official publication of the county society.

State Board Appointments.—Governor Groesbeck has reappointed the following physicians as members of the Michigan State Board of Registration in Medicine for the next four years: Dr. George L. LeFevre, Muskegon; Dr. Guy L. Conner, Detroit; Dr. Nelson McLaughlin, Detroit; Dr. William S. Shipp, Battle Creek; Dr. Albertus Nyland, Grand Rapids.

Beaumont Lecture Course.—At a recent meeting of the Wayne County Medical Society at Detroit, the Beaumont Lecture Course was inaugurated in honor of the pioneer physiologist, William Beaumont. The first year's lectures are to be given by Prof. William G. MacCallum, director of the department of pathology, Johns Hopkins University, Baltimore, on the subject of "Inflammation," January 30 and 31, in the Wayne County Medical Building. The lectures will be assembled and published in book form soon after delivery.

NEW HAMPSHIRE

Personal.—Dr. William Moody Parsons, Manchester, said to be the oldest practicing physician in the state—having practiced in Manchester since 1873, and before that time at Milford—celebrated his ninety-sixth birthday anniversary, December 30.

NEW YORK

Physician Becomes Mayor of City.—Dr. Frederick J. Douglas became mayor of Utica, January 1.

New York City

Alcoholism at Bellevue Hospital.—According to figures issued by Dr. Menas S. Gregory, director of the psychopathic and alcoholic service of Bellevue Hospital, 2,381 cases of alcoholism have been admitted to his wards in 1921, as compared with 2,091 in 1920. In 1914, the number of cases admitted was 7,642, and in 1916, 9,293. A large majority of the cases treated in the last two years were men and women who previously were not considered inebriates.

Conference on Drug Control.—"To marshal representative forces against the world menace of drug addiction" was the declared object of the inaugural conference held under the auspices of the Narcotic Drug Control League in the Assembly Room of the Colony Club, January 20. Sara Graham-Mulhall, formerly deputy commissioner, New York State Narcotic Drug Control, is president of the league, and Joseph P. Chamberlain, Columbia University, New York City, secretary.

Professor Pirquet Addresses Joint Meeting.—At a meeting of the pediatric section of the New York Academy of Medicine, held in conjunction with the New York Nutrition Council, the American Relief Administration and the health service of the New York Chapter of the American Red Cross, January 12, Prof. Clemens Pirquet made an address on "Standards of Child Nutrition as Developed by the American Relief Administration in Austria." He made a plea for further assistance until Austria should be in a position to assume the entire responsibility for continuing the relief work among children.

Special Appropriation to Fight Scarlet Fever.—The board of estimate has made an appropriation of $75,000 to the department of health with which to employ additional physicians, nurses and inspectors in connection with an unusual number of scarlet fever cases in the city and to take precautions against the possible recurrence of an epidemic of infantile paralysis, as this disease runs in cycles and an increase in the number of cases is to be expected during the coming year. A part of this appropriation will be spent for the laboratory study of scarlet fever and infantile paralysis. In 1920, there were 6,885 cases of scarlet fever here and in 1921, 13,880.

Personal.—Dr. George H. Reichers has been elected president of the governing board and president of the staff of the Bushwick Hospital, Brooklyn.——Col. Julius O. Cobb, surgeon in command of Fox Hills Hospital, Staten Island, and of the Polyclinic Hospital, Manhattan, has gone to Boston to take charge of the U. S. Marine Hospital there.——Dr. Maurice J. Lewi was the guest of honor at a dinner at the Hotel Astor given in recognition of his work in the health department. Dr. Royal S. Copeland, health commissioner, was toastmaster.——Com. William Seaman Bainbridge, M. C., U. S. Naval Reserve Force, has been decorated by the French government with the officer's cross of the Legion of Honor, in recognition of his work with the allied armies and in preparation of a "Report on the Medical and Surgical Developments of the War."——Dr. Otto Glogau has been elected an honorary member of the Vienna Otologic Society.

NORTH CAROLINA

Southern Surgical Meeting.—At the recent meeting of the Southern Surgical Association, held at Pinehurst, Dr. C. Jeff Miller, professor of obstetrics and gynecology, Tulane University, New Orleans, was elected president to succeed Dr. Randolph Winslow, Baltimore. The new vice presidents are: Drs. Vilray P. Blair, St. Louis, and Robert L. Gibbon, Charlotte. Dr. Hubert A. Royster, Daleigh, and Dr. Guy L. Hunner, Baltimore, were reelected secretary and treasurer, respectively. Memphis, Tenn., was chosen as the next convention city.

OHIO

Physician as Mayor.—Dr. Robert Henderson became mayor of the city of Urbana, January 1.

Special Meeting of Academy of Medicine.—A special meeting of the Academy of Medicine of Cleveland was held, January 18, at the medical library. Dr. William H. Park, Bellevue Hospital, New York City, spoke on "Diphtheria Immunity by Toxin Antitoxin" and Dr. John H. Davis, Cleveland, discussed one year's experience with diphtheria, 1,600 cases, and gave a demonstration of the Schick test.

PENNSYLVANIA

Personal.—Dr. William J. Wilkerson has resigned as superintendent and head surgeon of the Grandview Hospital, Sellersville, because of ill health.

Plans for County Tuberculosis Hospitals.—The first step toward establishing county tuberculosis hospitals, authorized by the voters in several counties at the November, 1921, election, was taken December 7, when a conference called by Dr. Edward Martin, health commissioner, was held at Harrisburg for the purpose of considering problems to be met in building the new institutions. It was suggested that the hospitals be kept away from charitable or penal institutions but should be accessible to railroads and highways. From 50 to 60 acres was considered enough ground, and it was estimated that the buildings would cost from $2,000 to $3,000 a bed. Assurance was given that steps would be taken without delay in both counties represented—Cambria and Luzerne—to choose the sites, and that the erection of the buildings would be started as soon as possible.

Philadelphia

Personal.—Dr. Charles J. Hatfield, managing director of the National Tuberculosis Association, has been appointed a trustee of the University of Pennsylvania.

Lecture on the Truth About Vivisection.—Mr. Ernest Harold Baynes, the well-known, life-long friend of animals, gave an illustrated free lecture on "The Truth About Vivisection," January 12, under the auspices of the Philadelphia County Medical Society, the College of Physicians, the Academy of Natural Sciences, the American Philosophical Society, the Medical Society of the State of Pennsylvania, and the Pennsylvania Society for the Protection of Scientific Research.

PHILIPPINE ISLANDS

Vaccination for Cholera.—Nineteen cases of cholera are reported at the Isolation Hospital and the health authorities have started an intensive campaign of vaccination to avert a possible epidemic.

CANADA

University of Toronto.—Discussing the serious charges now being made by a large section of the medical profession against the system of control and teaching in the faculty of medicine at the University of Toronto, Dr. Herbert A. Bruce, professor of clinical surgery, states that the present system is too autocratic, and that for a democratic country, the president of the university has too much power. He believes the amended university act to be responsible for this criticism. This act destroyed the power of the senate, and handed the control over to a board of governors appointed by the province, and at the same time gave greatly increased powers to the president. Previous to the passing of the act each faculty appointed its own dean, annually, but now the president appoints the deans and keeps them in office indefinitely. As a remedy, Dr. Bruce suggests that the university should be put on a more democratic basis, and this would only be possible after a public inquiry conducted by a committee appointed by the board of governors, the result of their findings to be incorporated in an amended university act.

Prescriptions for Liquor.—December, 1921, was a busy month for Ontario physicians. No less than 71,028 prescriptions for liquor were issued, and 311 practitioners were suspended by the Board of License Commissioners for Ontario for exceeding their monthly quota of fifty prescriptions. Of the 311 doctors suspended, 207 are suspended for one month; twenty-four, who exceeded seventy-five prescriptions, are suspended until the middle of February, and the remainder for still longer terms. Mr. W. S. Dingman, vice chairman of the Ontario License Board, states that stricter methods will have to be employed and heavier penalties enforced to prevent a recurrence of this condition. Commenting on these suspensions, Dr. Henry W. Aikins, registrar of the College of Physicians and Surgeons, states that as the Medical Council meets only once a year, the executive committee has no power to deal with these cases, therefore cannot suspend physicians from practicing during the periods of suspension. The Ontario legislature has been requested several times to grant this power to the executive committee, but so far nothing has been accomplished.

Public Health News.—At the initial meeting for 1922 of the board of health, Toronto, Ont., Alderman C. A. Risk was elected chairman.——Dr. Charles J. O. Hastings, medical officer of health, Toronto, in his annual report presented to the board said that Toronto had completed the healthiest year in its existence, the general mortality rate of 11.2 for 1921 being the lowest on record. In regard to infant mortality an improvement was shown, the death rate was only 86.8 per thousand as against 144.4 for 1911; the births totaled 13,985 as against 9,914 in 1911.——Dr. Hastings has provided the finance commissioner with a nest egg in the shape of a balance of $25,388.57, of the total appropriation voted to the health department for last year. The amount voted was $855,306.47. Thirty cases of smallpox have been reported in Toronto since December 15. Dr. Hastings considers the epidemic mild. With one exception, none of the patients had ever been vaccinated.——According to the recently published vital statistics report for 1921 twins are entering Canada at the rate of 225 per month, by the birth route. In 1921, there entered the province of Quebec 2,843 twins out of a total number of births of 246,820. Quebec has the highest birth rate in Canada.

GENERAL

Personal.—Dr. Hideyo Noguchi, a member of the Rockefeller Institute for Medical Research, was elected to honorary membership in the Society of Dermatology and Venereology of Moscow at its thirtieth annual meeting, October 16, 1921.

Meeting of National Health Council.—The annual meeting of the National Health Council was held, January 5, at the American Red Cross building, Washington, D. C.; Dr. Livingston Farrand, president of Cornell University and former chairman of the central committee of the American Red Cross, was elected chairman of the council for the year 1922. Other officers elected were: Lee K. Frankel, Ph.D., vice chairman; Dr. Samuel J. Crumbine, Topeka, Kan., recording secretary and Dr. William F. Snow, New York City, treasurer. Dr. Donald B. Armstrong, Framingham, Mass., was appointed executive officer for 1922.

Census of Health and Safety Workers.—All industrial physicians and surgeons, industrial nurses and other persons engaged in industrial health work are to be included in the census of safety and health workers now being taken by the National Safety Council in all parts of the country. Although health work in industry, along with safety, has made great strides in the last few years, it is not at present known how many persons are engaged in either of these activities, who they are, or where they are located. This is the first time an attempt has been made to list all the industrial safety and health workers. A registration form has been prepared, which may be obtained from the National Safety Council, 168 North Michigan Avenue, Chicago.

Committee for the Protection of Animal Experimentation.—Some weeks ago it suddenly became apparent that the activities of the various antivivisection societies had finally reached a strength where they were able to menace effectively the health of the community. On a referendum vote in California they threatened all animal experimentation last year, and it was only with some difficulty that the measure was defeated. The Interstate Convention of Antivivisection Societies was held in Boston last month and at that time a committee was organized to undertake a campaign of sane, humane education to combat the propaganda of those who seek to prevent the making of vaccines and antitoxins, the testing of all such drugs as ergot, and a general interference with medical methods of proved efficacy for the diagnosis, the prevention and cure of disease.

A committee of the Boston Society of Natural History was first appointed, of which T. Barbour was chairman, to arrange for Mr. Ernest Harold Baynes to deliver two lectures, one upon a "Nature Study" subject, the other entitled "The Truth About Antivivisection." Mr. Baynes delivered the last lecture, December 17, to a large and enthusiastic audience in Huntington Hall, Boston. It was an amplification of the article which he prepared for the *Woman's Home Companion*, July, 1921, and which at first aroused a howl of consternation from all of the antivivisection groups in the country. So much interest was aroused in the general question that the lecture committee of the Boston Society of Natural History reorganized itself into the Committee for the Protection of Animal Experimentation. An appeal for funds, signed by President Charles W. Eliot, Prof. Richard P. Strong, M.D., Ernest Harold Baynes, Dr. John C. Phillips, Dr. Edward Wigglesworth, Dr. Townsend W. Thorndike and Dr. Thomas Barbour, brought a most encouraging response. The committee has published several statements, designed to instruct the community as to just what the results may be if the antivivisectionists succeed.

Cardinal O'Connell was one of the first to endorse the movement in a most inspiring letter which was followed by letters of endorsement from persons in all stations of life and representing many different interests, particularly life insurance companies, agricultural interests and charitable organizations of many sorts.

The newspapers gave the work of the committee generous publicity and its efforts as a whole have become so successful that there is now a widely expressed desire that the work of the committee be carried forward by some permanent organization. The committee has studied carefully the organization and work of the Research Defense Society of England and it is probable that some organization of this sort will be founded.

To be really effective the society should be national in its scope and have an able, active field secretary and should aim to protect the public from the mischievous activities, not only of the antivivisectionists, but the antivaccinationists, the medical freedomists, so-called, and all others who aim to lower the standards of medical education or jeopardize the public health in other ways.

A correspondence is invited with those interested and our literature is available for free distribution.

EDWARD WIGGLESWORTH, Ph.D.,
J. C. PHILLIPS, M.D.,
T. BARBOUR, Ph.D.,
For the Committee.

Annual Congress on Medical Education, Licensure, Public Health and Hospitals.—A joint conference on medical education, licensure, public health and hospitals will be held at the Congress Hotel, Chicago, March 6-10, 1922. The conference will be participated in by the Council on Medical Education and Hospitals and the Council on Health and Public Instruction of the American Medical Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, and the American Conference on Hospital Service.

On Monday, March 6, besides the introductory remarks by the chairman and the annual report by the secretary of the Council on Medical Education and Hospitals, the program will be as follows:

Report on Undergraduate Medical Curriculum: What Subjects, if Any, Should Be Transferred to the Graduate Medical School? Ray Lyman Wilbur, M.D., president, Leland Stanford Junior University, Stanford University, Calif.

The Subject Matter on Public Health Which Should Be Taught to Medical Students in the Undergraduate Curriculum. Hans Zinsser, M.D., professor of bacteriology, Columbia University College of Physicians and Surgeons, New York.

Symposium on the Hospital Internship as an Essential for Graduation. L. S. Schmitt, M.D., acting dean, University of California Medical School, San Francisco; James B. Herrick, M.D., professor of medicine, Rush Medical College, Chicago; J. C. Litzenberg, professor of obstetrics, University of Minnesota Medical School, Minneapolis.

On Tuesday, March 7, there will be an address by Dr. Theodore Hough, president of the Association of American Medical Colleges, and the following reports and papers:

A New Curriculum: Report of Committee on Education and Pedagogics, Hugh Cabot, M.D., dean, University of Michigan Medical School, Ann Arbor.

Liberalization in Medical Education. A. C. Eycleshymer, M.D., dean, University of Illinois College of Medicine, Chicago.

The Student Internship: An Experiment in Medical Education. E. P. Lyon, M.D., dean, University of Minnesota Medical School, Minneapolis.

Professors and Clinical Professors of Clinical Subjects. C. P. Emerson, M.D., dean, Indiana University School of Medicine, Indianapolis.

Teaching Facilities: Report of Committee on Equipment, John T. McClintock, M.D., professor of physiology, State University of Iowa College of Medicine, Iowa City.

On Wednesday, March 8, the session will be devoted to the subject of medical examinations and licensure. The program will be as follows:

Introductory Remarks, David A. Strickler, M.D., president, Federation of State Medical Boards, Denver.

Graduate Work as a Licensure Substitute for Deficiency in Premedical Requirements, Thomas S. McDavitt, secretary, board of Medical Examiners of the State of Minnesota, St. Paul.

Reciprocity Problems in the South, with Particular Reference to Special State Licensure Requirements. K. P. B. Bonner, M.D., secretary, Board of Medical Examiners of the State of North Carolina, Morehead City, N. C.

State Licensure Under the Combination Plan. Mr. Paul Davis, director, Bureau of License, Department of Law Enforcement of the State of Idaho, Boise.

Reciprocity in Hospital Intern Service. I. D. Metzger, M.D., president, Bureau of Medical Education and Licensure of the Department of Public Instruction of Pennsylvania, Pittsburgh.

The program for Thursday, March 9, will deal with the general topic, "Organization of the Public for Cooperation with the Medical Profession," with the following papers:

Address, Victor C. Vaughan, D.C., chairman, Council on Health and Public Instruction, Washington.

Organizing the Public as Allies of the Medical Profession. Frederick R. Green, M.D., secretary, Council on Health and Public Instruction, Chicago.

Organizing Physicians for the Conservation of Public Health. Discussion.

Public Health from a Layman's Standpoint. Mr. Glenn Frank, editor, *Century Magazine*, New York.

Organizing the Public with Physicians as Leaders. F. E. Sampson, M.D., vice president, Iowa State Conference of Social Work, Creston, Iowa.

Organizing Our State Societies for the Protection of Public Health. J. H. J. Upham, M.D., chairman, Committee on Public Policy and Legislation of the Ohio State Medical Association.

On Friday, March 10, the session will deal with hospital service with a program consisting of

Introductory Remarks, Frank Billings, M.D., chairman, American Conference on Hospital Service, Chicago.

Fundamental Principles and Policies Which Are Necessary in a National Program of Hospital Standardization. Mr. John G. Bowman, chancellor, University of Pittsburgh, Pittsburgh.

Qualifications and Training of Hospital Administrators.

Establishment and Organization of the County Hospital.

Hospital Library and Service Bureau: Its Value and Utility to Hospital Standardization and Administration.

The Dispensary: A Diagnostic Center: Its Relationship to the Hospital and to the Medical Practitioners of the Community It Serves. Mr. John E. Ransom, superintendent, Michael Reese Hospital, Chicago.

LATIN AMERICA

Aballí, President Elect of Cuban Medical Congress.—*Médica* of Matanzas, Cuba, states that Dr. A. A. Aballí of that city was elected at the recent Fifth Cuban Medical Congress to preside at the next congress.

New Polyclinic in Chile.—The Liga de Higiene Social of Santiago, Chile, has begun the construction of a large modern polyclinic. The placing of the cornerstone became a public celebration, being attended by the president of the republic and the diplomatic corps.

"Patent Medicines" in Uruguay.—The executive committee of the Medical Syndicate of Uruguay, after considering the present scarcity of "patent medicines," has approved resolutions stating that the great majority of "patent medicines" can be replaced advantageously by medical prescriptions.

Hospital News.—The Hospital Cartagena, a new fifty-bed hospital is to be opened soon at Cartagena, Colombia, S. A. Drs. Raoul Bernett and Kempton P. A. Taylor, Philadelphia, and W. E. Sickner, Ph.D., roentgenologist, Minnesota, sailed Dec. 29, 1921, to take charge of the institution. Dr. Rafael Calvo, dean of the Medical School of Cartagena, will be in charge of the ear, nose, throat and eye clinic.

Hospital Situation in Argentine.—The lack of necessary equipment in Argentine hospitals has become critical and the head of the public assistance has asked the secretary of the interior to request a deficiency appropriation of 5 million of pesos to purchase the necessary equipment, especially drugs, which are urgently needed. In order to determine the actual needs, an inspection was made by the secretary of public assistance, Dr. Novaro, of the various municipal hospitals of Buenos Aires.

Personal.—Dr. V. Peñuela Rodriguez, a prominent physician of Bogotá, Colombia, has returned from New York to his country.——Dr. Pedro del Pino of Buenos Aires, Argentina, has been visiting in Chicago.——Dr. Reginaldo Arango has been appointed public health officer of Bogota, Colombia.——Prof. Fernando Magalhães of the Rio de Janeiro medical school was recently injured in an automobile accident, but is recovering.——Prof. Pedro Chutro of Buenos Aires has been delivering some lectures on surgical subjects at the medical school at Santiago, Chile.——A banquet was tendered to Dr. L. Rivas Miguez on his recent retirement from the charge of the Children's Hospital at Buenos Aires after thirty-five years of service.——The Argentine government has awarded part of the national scientific prize endowment to Dr. J. Iribarne for his work on radiotherapy of uterine cancer, and to Dr. S. Parodi for his work, "Parasitologia Humana."——Carelli of Buenos Aires has been demonstrating at Paris and London his method of perirenal inflation for roentgenoscopy (mentioned editorially in THE JOURNAL, Oct. 1, 1921, p. 1108), and according to the *Lancet* it seems to be highly appreciated.

FOREIGN

Reduction of Rates to Foreign Students in Italy.—The *Riforma Medica* states that five steamship lines offer reduction of 75 per cent. of the passage fare to students coming to Italy for study. A certificate is required from the students' consul.

Orthopedic Surgery in Belgium.—The foundation of the Société Belge de Chirurgie Orthopédique is announced at Brussels. The annual dues entitle the members to the *Archives Franco-Belges de Chirurgie* without further charge. Dr. A. Lambotte is the president of the new society.

Public Health Congress in Barcelona.—Arrangements are being made to hold the first National Congress of Public Health in Barcelona, Spain. At the same time there will be held an exhibition of public health and sanitary devices which will aid to popularize modern sanitary methods in Spain.

Health Department Created in Russia.—In the recent reorganization of the Soviet cabinet, three new portfolios were created, one of them for public health. Dr. Semashko has been placed in charge. One of the by-effects of the war has been the creation of public health departments in practically all European nations.

Tribute to Leading Spanish Dermatologist.—A booklet of forty-three pages has been received which is a tribute to the work of Dr. E. A. y Sáinz de Aja, professor at the Policlinica of Madrid, a leading dermatologist and syphilologist. The list of his principal publications fills nine pages, and the dedication of the booklet is signed by 159 physicians who pay tribute to him as the founder of the Spanish school of dermosyphilography.

International Congress on Mental Hygiene.—The French Ligue d'Hygiène Mentale has organized an international congress on mental hygiene to convene at Paris, May 24-27, 1922. The *Informateur* for December, 1921, gives the details of the movement to realize this conference. Correspondence should be addressed to Dr. Antheaume, 6 rue Scheffer, Paris. The fee has been placed at 10 francs, and 25 francs for regular members of the congress.

Compulsory Vaccination Against Typhoid.—The *Castilla Médica* relates that a state regulation in Spain now imposes vaccination against typhoid, when typhoid or paratyphoid are prevailing in epidemic form, for all tending the cases or in relations with the sick, directly or indirectly, except as the vaccinating physician recognizes contraindications for the procedure. The decree adds that consent is not given to use vaccines made with living germs.

Personal.—The fiftieth professional anniversary of Dr. Espina y Capo of Madrid is soon to be celebrated with presentation of a portrait bust and a memorial tablet to be placed on the wall of his clinic. A petition is also being circulated to ask that his senatorship be made for life. In addition to his manual on heart disease and works on tuberculosis and social hygiene, etc., he has published a number of translations of medical works.——Dr. E. Suñer was the guest of honor at a banquet on the occasion of his appointment to the chair of pediatrics at the University of Madrid. ——Professor Hammarsten of Upsala and Professor Madsen of Copenhagen were recently elected honorary members of the Berlin Medical Society.

Roentgen Academy Planned at Berlin.—A meeting of officials, university authorities and representatives of manufacturers of roentgen-ray apparatus was held recently at Berlin to plan for the foundation of a roentgen academy. The roentgen manufacturers offer to finance the institution, which is intended to contain laboratories and lecture rooms for training in roentgen-ray work, but not for research. The university authorities protested against the plan of a separate, private institution of the kind, and pleaded to have it organized as a university institute or have the manufacturers sustain the already organized institutes in this line. The latter plan has been followed in the Kaiser Wilhelm-Forschungs Institut which owes its progress to endowments made by the organized manufacturers.

Deaths in Other Countries

Col. **H. Littlewood,** General Hospital, Leeds, England, December 19, aged 60.——Dr. **W. R. C. Middleton,** health officer of Singapore, Straits Settlements, died at Bexhill, England, December 8, aged 58.——Dr. **G. J. K. McIver,** Australian and New Zealand Army Medical Corps, during the World War, died in Victoria, Australia, October 5.—— Dr. **R. Gambier** of St. Leonards, England.——Dr. **W. C. Sanders,** Cannes, France, former president of the Royal Medical Society, from pneumonia, aged 56.——Dr. **H. E. Hick,** Rhodesia, South Africa, chairman of the Mashonaland division of the British Medical Society, October 27.——Dr. **G. P. Jordan,** health officer of Hong Kong, China, one of the founders of the Hong Kong Medical College, vice chancellor and professor of tropical diseases of the Hong Kong University, died in London, December 4, aged 64.——Dr. **A. Burckhardt,** professor of hygiene at the University of Basel.——Dr. **L. Hahn,** librarian of the Paris medical school.——Dr. **J. Schäffer,** privatdozent for dermatology and syphilis at the University of Breslau.——Dr. **L. Emery** of Lyon succumbed to the effects of a scratch at a necropsy, aged 30.

CORRECTION

Physicians Fees Not Reduced.—We are informed by Dr. Morris A. Slocum, secretary of the Physicians Mutual Aid Association of Sharpsburg, Pa., that statements relative to a general reduction of fees by Sharpsburg physicians are incorrect.

Government Services

Public Health by Radio

The U. S. Public Health Service, December 23, inaugurated a semiweekly wireless health bulletin service through the Naval Radio Station, N. S. F., Naval Air Station, Anacostia, Va. Messages are sent on Tuesdays at 4:15 p. m., and Fridays at 9 p. m., Washington time. It is said that any radio station, amateur or professional, which has a telephonic attachment may be able to read these messages. All radio operators are advised that if they have particular questions pertaining to health which they wish to ask, they may write to the Surgeon General, U. S. Public Health Service, Washington, D. C., for the attention of Radio Service, giving name of operator and call signal of their station, and their questions will be answered by radio telephone at the conclusion of each public health radio message.

Civilian Status for Public Health Service Officers Stopped

Authoritative information comes from the White House that the proposed order to place public health officers on a civilian basis will not be issued. This announcement has been made in answer to protests which, in large numbers, went to Washington from many parts of the country against this contemplated order, which was first suggested by the Bureau of Efficiency and later informally approved by the Assistant Secretary of the Treasury. The effect of the proposed order would have been to reduce the pay of health officers about 50 per cent. and would have caused many resignations in the Public Health Service.

Hearings on Langley Bill

Hearings have been started before the House Committee on Public Buildings and Grounds on the Langley bill providing a fund of $16,350,000 to complete the permanent government building program of modern hospitals to care for disabled war veterans.

Army Dental School

On urgent recommendations of Surgeon General Ireland an Army dental school has been established at the Walter Reed General Hospital in Washington, D. C. A class of twenty students started the course extending until June 30, 1922. These officers recently completed a course of tactical instruction at the medical school at Carlisle Barracks, Pa., and now will receive final technical and scientific instruction. The school, which is attached to the Army Medical School clinics and laboratories also will be utilized for the training of a select corps of enlisted men of the medical department in the technic, hygiene and mechanics of dentistry.

Conference on Care of Disabled

Gen. Charles E. Sawyer, President Harding's private physician and acting chairman of the Board of Hospitalization, has called a conference this week of the commanding officers of government hospitals to discuss plans for the improvement of the care and treatment of disabled war veterans. The conference is being attended by representatives of all the institutions under control of the U. S. Veterans' Bureau, the U. S. Public Health Service, the Interior Department, the Army and the Navy and the Old Soldiers' Homes. These hospital officials will also attend a meeting this month of the chiefs of the various departments of the government called by President Harding and Charles G. Dawes, director of the

budget, for the purposes of discussing the reduction in expenses and the practice of economy in handling federal finances.

Proposed Neuropsychiatric School

Recommendations to the Federal Board of Hospitalization, headed by Brigadier General Sawyer, for the establishment of a neuropsychiatric school have been made by Dir. Charles R. Forbes of the U. S. Veterans' Bureau. The proposal is to locate the school at the St. Elizabeth's Hospital in Washington, D. C., for the instruction of medical officers of the U. S. Veterans' Bureau and the U. S. Public Health Service in the treatment of neuropsychiatric diseases. The director of the Veterans' Bureau has also recommended the purchase by the government of a hospital at Memphis, Tenn., for the treatment of disabled veterans of the southern district. He also announced that the reduction of the number of contract hospitals was being made as rapidly as government facilities became available and that in the future all hospitals operated by the United States would be known as U. S. Veterans' Bureau hospitals. Approval by President Harding of the plans of Colonel Forbes for the establishment of three government rehabilitation schools was announced this week. These schools will be located on the Pacific coast, on the Atlantic coast and in the South.

Examination of Hospitalized Ex-Service Men

A campaign to examine all ex-service men who have been hospitalized by the government has been inaugurated by Col. Charles R. Forbes, director of the U. S. Veterans' Bureau and every disabled patient in all the government institutions is expected to be visited by a representative of the bureau. At the present time there are 11,730 veterans hospitalized for tuberculosis, 8,346 for neuropsychiatric causes, and 8,819 general and surgical cases. The largest number of tuberculous cases are in the states of Georgia, North Carolina, South Carolina, Florida and Tennessee, where there are 2,303 cases. In the states of New Mexico, Colorado, Wyoming and Utah, where the climate is conducive to the recovery of tuberculous patients, there are 2,045. The number of tuberculous and neuropsychiatric cases will continue to increase and is expected by the U. S. Veterans' Bureau Medical Department to reach its peak in 1925, when it is estimated that there will be 24,000 veterans hospitalized. A total of 1,632 hospitals where ex-service men are now confined, including contract hospitals, Army and Navy hospitals, Public Health Service hospitals and soldiers' homes, will be visited during this campaign. The number of patients now in these hospitals reaches a total of 28,895. This number represents the most seriously disabled veterans of the World War. A large number of them have been in the hospital ever since they were wounded overseas. There are at present four hospitals in the Philippine Islands taking care of beneficiaries, six in Porto Rico and five in Hawaii. Among these hospitals are fifteen Navy hospitals, six Army hospitals and nine soldiers' home hospitals.

Allocation of Funds Approved by the Langley Bill

Funds to be expended by the secretary of the treasury on the advice of the consultant on hospitals of which Dr. William C. White is chairman have been allocated. At this time the Veterans' Bureau has no further funds for the lease or purchase of further hospital sites. Additional facilities for Veterans' Bureau patients, on which actual construction work has not been started, include a 500-bed hospital at Tuskegee, Ala., for negroes with tuberculosis and with neuropsychiatric disorders; a neuropsychiatric hospital for 500 patients at Palo Alto, Calif.; a 250-bed tuberculosis hospital in Western Pennsylvania; a 250-bed general hospital at St. Louis; a 250-bed tuberculosis hospital in New York state for patients from the metropolitan district of New York. During the new year the Veterans' Bureau will have at its disposal in government institutions 3,150 additional tuberculosis beds and 2,750 additional neuropsychiatric beds.

CORRECTION

Proposed Law Governing Medical Corps Promotions.—Promotions in the Medical Corps of the U. S. Army (THE JOURNAL, Jan. 7, 1922) are covered by Section 10 of the National Defense Act as amended by the act approved June 4, 1920. It is already law and has been in effect since the passage of the act.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Dec. 19, 1921.

Compensation for the Disuse of a School Following Its Use During the War as a Hospital for Venereal Disease

A curious case has come before the war compensation court. The trustees of a girls' school at Gravesend claimed compensation for the use by the Admiralty of the college premises as a hospital for venereal diseases during and after the war. They claimed the large sum of $365,000, on the grounds that they could not again use the premises as a school after the use to which it had been put. Medical evidence was given to the effect that the premises could be disinfected and infection from their subsequent use rendered impossible. But several medical witnesses stated that such a moral stigma would attach to the place as to render it no longer suitable for a girls' school; that it would be morally prejudicial to young girls to send them to premises which had been subjected to such use, and that their parents would reasonably decline to send them. The court was of opinion that the risks to the physical condition of imaginative young girls arising from knowledge of the use to which the school had been put would be a proper subject for serious consideration by the trustees; that the history and traditions of a school have a serious material influence on its usefulness and success. Judgment was given in favor of the trustees. The amount of compensation remains to be determined.

Sudden Increase of Influenza

The returns of deaths from influenza for the last week show a sharp rise. The type of influenza is peculiar. It seems to be largely of the gastric type. That is to say, the attack is characterized by sickness, vomiting and giddiness, and a sense of great weakness. In some instances, there seems to be no rise of temperature and people go about until suddenly warned by a feeling of faintness. A few show a rash in the form of heat spots, a condition which was observed in cases of the disease occurring last April. In the great epidemic, the type of infection was pulmonary, and pneumonia was the danger. So far the present epidemic does not seem to be characterized by pulmonary symptoms.

Recovery of Fees for Osteopathy

An appeal came before the High Court of Justice against a judgment given by a county court for $290 for osteopathic treatment. The plaintiff had a diploma from an American college of osteopathy, but was not a registered practitioner in this country. In her evidence at the county court, the plaintiff said that she did not profess to have medical or surgical skill or to diagnose disease; that osteopathy was a "manipulative treatment" of the tissues of the body, and that she gave treatment only by request and did not advise. The defendant contended that the plaintiff was debarred from recovering fees by the medical act which provides that "no person shall be entitled to recover any charge in any court of law for any medical or surgical advice or attendance or for the performance of any operation or for any medicine which he shall both have prescribed and supplied, unless registered." The defendant had paid an account of the plaintiff's in the preceding year; but, in the case of the disputed account, a physician whom the defendant had consulted was of opinion that osteopathic treatment was useless and possibly harmful to the defendant. The county court judge held that osteopathic treatment was not within the medical act

and gave judgment for the plaintiff. The appellant's lawyer referred to the definitions of the words medical, osteopathy, and operation in the New English Dictionary. "Operation" included treatment by hand alone. For the osteopath, it was contended that she did not call for the purpose of giving advice and was not entitled to make any charge unless she gave actual treatment; and that the medical act covered only attendance or advice. The presiding judge said that in his view the plaintiff did not give any advice. She gave certain treatment to the body. He declined to be led into definitions. He was satisfied that this case did not fall within the act. The appeal was therefore dismissed.

Trade Union Boycott of Hospitals

The National Federation of General Workers has issued a notice counseling all members of its affiliated unions not to subscribe to or help any demonstration on behalf of hospitals until they have agreed to pay trade union rates to their staffs. This threat has arisen in consequence of five of the London hospitals terminating an award given by an industrial court on the question of wage rates and conditions. The award dealt only with minimum wages for unskilled labor, fixed at $15 per week; working hours to be forty-eight per week; overtime to be paid as time-and-a-quarter. The hospitals concerned repudiated any intention to reduce wages below the minimum stated. The difference, therefore, lies in the conditions. The Dock, Wharf, Riverside and General Workers Union, which seems to desire to incorporate hospital workers, has put forward an ambitious program, which amounts to a claim that the direction of hospitals shall be handed over to it. It divides hospitals into those which engage in research and those which do not. For some unexplained reason, it has fixed a rate of wages to be paid by the former which is higher than that to be paid by the latter. It divides porters into five grades, from the head porter, who is to be paid $26 per week, to the lowest, who is to be paid $16. It also fixes rates of pay for pathologic, bacteriologic and clinical attendants, for laboratory assistants in three grades, for radiographic operators, male dressers and nurses, for the hospital clerical staff, and for its assistant dispensers. None of these workers, as a rule, belong to the Dockers' Union. Perhaps the idea is to force them in. Possibly the union will then turn its attention to the female nurses and even to physicians, who will be asked "to show their card." Mr. E. W. Morris, house governor of the London Hospital, while disclaiming any quarrel with trade unions, points out that a hospital is not a producing factory and cannot be run on the same lines. People who wish to work with their eye on the clock should choose to earn their livelihood elsewhere. The night porters go on duty at 6 p. m., and are allowed to go to bed at 1 a. m., but remain on call for emergencies. If they are called after 3 a. m., the union demands that they be paid overtime. This would mean that while surgeons are summoned from the other side of London, and dressers, who are called up, are paid nothing, these men would have increased pay.

Hospital Professors Not to Engage in Private Practice

The University of London has decided that the holders of the new medical chairs at those London hospitals which do a considerable amount of research work and teaching shall not engage in private practice. It is considered that the established practice of combining hospital work and private practice militates against original work.

The Conveyance of Plague by Rat Fleas

A most interesting discovery with regard to the conveyance of plague to man by the agency of rat fleas has been communicated to the *Indian Journal of Medical Research* by Major F. W. Craig of the Indian Medical Service. The investigations published in India in 1907 showed that plague was conveyed by rat fleas. It was then generally assumed that all rat fleas—only one species, *Pulex cheopis*, was then known—were capable of communicating plague. Later it was discovered that there are at least three species of rat fleas, one of which, *Pulex astia*, is just as widely distributed as *Pulex cheopis*. Major Craig now states that *Pulex astia* never conveys plague, but it is invariably conveyed by *Pulex cheopis*. This explains why large portions of India, such as the southern portion of the Madras presidency, and large tracts of the eastern coastal area, of the central India plateau and of eastern Bengal and Assam have remained free from the disease, although they are near to and in communication with regions which have suffered severely. The importance of this discovery is obvious. If *Pulex cheopis* and not *Pulex astia* is the plague flea, it will be possible, by examination of the fleas of a locality, to estimate precisely its liability to plague; in fact to map out the cheopis belt, just as the fly belts of Africa have been mapped out. It would clearly be unnecessary to take elaborate and expensive precautions against plague in a district in which rat fleas were of a species which is not a vector of plague.

"Dependent Husbands"

A sequel to the dismissal of a woman physician by the St. Pancras Borough Council because she married, reported in a previous letter (THE JOURNAL, Nov. 12, 1921, p. 1585), is contained in a report by the General Purposes Committee to the council. The committee has considered minutes of the Public Health Committee recommending that, in filling the vacancy, the principle recently adopted by the council with regard to the termination of the appointment of women on marriage be included in the conditions of appointments. The General Purposes Committee agree with this, but at the same time desire to make it clear that they are prepared to consider applications from married women with dependent husbands. The condition of termination of the appointment of women on marriage should be subject to the qualification that married women with dependent husbands are not debarred. The reason for barring married women is thus obvious. It is not that the Council considers marriage per se a disqualification, but only when it takes place with a man able to support the woman. The idea evidently is that a woman physician with a husband who can support her should not be allowed to compete against women who have not. The council, which contains a majority of labor members, is evidently imbued with the prevalent economic error that there is a fixed amount of work in the world to be done and that any one obtaining work is causing the unemployment of some one else.

PARIS

(From Our Regular Correspondent)

Dec. 16, 1921.

Secondary Education of Girls in Relation to Depopulation

At the last congress for the promotion of the birth rate, held in Bordeaux, Mlle. A. Amieux, principal of the école normale supérieure of Sèvres, presented an interesting communication on the problem of depopulation and the remedies that the secondary instruction of young women offers. France is becoming depopulated because it loses too many children in infancy and early childhood. In order to remedy this evil, the *lycées* for girls have mapped out a definite program. Pupils are given instruction in hygiene pertaining to early infancy. Contagious diseases, such as typhoid, diphtheria, measles, chickenpox and tuberculosis, are explained to them, in a general way. The effects of alcoholism are taught. At the same time, the pupils are encouraged to take part in the various forms of infant welfare work: day nursery,

gouttes de lait (milk stations), etc. In Paris, as well as in the provinces, courses in child welfare are becoming more common, presented either independently or in connection with secondary schools, thus preparing the girls of today to be the mothers of the future. The work of the *pouponnières universitaires*, established during the war by the ladies' aid societies for the promotion of infant welfare, can scarcely be overestimated. The pupils of the secondary schools contribute to their support. After completion of their secondary school work, at the age of 17 or 18, the young women, on approval of their parents, take a three or six months' course at the *pouponnière*, where they pursue courses in child welfare given by the regularly appointed physicians of the controlling society.

Mlle. Amieux is constantly considering to what extent and by what means secondary instruction for young women can, directly, or indirectly through moral influence, contribute toward an improvement in the birth rate. She has suggested a plan for sex education, by which this subject, instead of being isolated as heretofore, will be closely interwoven with all other subjects. For example, beginning with the kindergarten and on through the elementary grades, by means of natural history, the attention of the young girls may be directed to all living organisms. Later, the subject of reproduction in plants may be taken up; then, in a general way, the same phenomena in animals. A few years later, more detailed lessons in human anatomy and physiology may be begun, since up to this time the instruction will have been confined to the functions of nutrition and general relationship. A somewhat superficial study of the feminine organs of generation and of the development of the human embryo may be undertaken. A succinct discussion of certain bacterial diseases and the circumstances governing their transmissibility from mother to child could be interposed at this juncture, thus affording an opportunity for discreet advice on the subject of sexual hygiene. Mlle. Amieux also suggests, in connection with sex education, that collaboration between the secondary school and the home be established. She proposes, furthermore, that mothers' meetings, presided over by the woman principal or the woman physician attached to the institution, be held regularly, at which questions pertaining to sex education shall be discussed, with a view to preparing the mothers better for their task.

Death of Madame Dr. Brès

A few months ago, I mentioned the sad situation of Madame Madeleine Brès, the first French woman to secure (about fifty years ago) the title of doctor of medicine. Blind and more than 80 years of age, she had become absolutely destitute; so a subscription was opened in medical circles to secure for her the needed relief (THE JOURNAL, April 9, 1921, p. 1023). Madame Brès died November 30.

Supervision of Clinical Laboratories

Practicing physicians are getting more and more into the habit of depending on the clinical laboratories for information they need to complete their clinical examinations (Wassermann test, serodiagnosis in typhoid, etc.). For example, in 1920, the Pasteur Institute of Paris performed 26,500 tests. It is also quite evident that the number of biologic laboratories is increasing. Besides the official laboratories connected with the schools of medicine, the hospitals or the Pasteur institutes, new private laboratories are constantly being established. The latter present, unfortunately, the grave defect of being left to their own initiative, and they are often accused of furnishing erroneous analyses. In this connection, an experience of Dr. Ravaut is particularly instructive. A specimen of blood that he sent to three different laboratories for a Wassermann test yielded three different responses: reaction positive, reaction negative and reaction partially positive. Only one laboratory had, in reality, made a correct analysis.

In order to remedy this state of affairs, Dr. Paul Salmon, writing in the *Revue d'hygiène*, suggests that a commission for the supervision of medical biologic laboratories be created. Such a commission might be given the power to grant, on demand, an official sanction (as, for example, is now the case in connection with the manufacture of serums and vaccines). Likewise, if it became established that a given laboratory was poorly conducted, such official sanction could be withdrawn. This commission might also be entrusted with the creation of laboratories in sections where needed. Some of the departments of France, and some French cities of more than 100,000 inhabitants, do not possess a single laboratory capable of meeting the needs of physicians. In such cities, in case of epidemics of diphtheria or dysentery, the foci of contagion cannot be ascertained. It is, therefore, in the interest of public policy to establish, and, if necessary, to subsidize, regional biologic laboratories.

The Psychiatrists in Relation to the Academy of Medicine

The premature passing of Professor Dupré leaves a vacant chair, at the Academy of Medicine, in the section of hygiene and legal medicine. Formerly, psychiatry had two representatives, at one time, in this section; namely, Magnan and Motet, two famous names in the domain of clinical and medicolegal psychiatry. After the death of Motet, his place in the academy was not filled by an alienist. Only Magnan was succeeded by a psychiatrist—Professor Dupré. At the present time, besides two well known alienists, there are other physicians who have had no connection with medicolegal psychiatry or mental diseases, who are aspirants for the vacancy caused by the death of Dupré. The psychiatrists have become aroused over the matter and have filed a protest from the pen of Dr. A. Antheaume, who is the director of the *Informateur des aliénistes et des neurologistes*. They state that they cannot think that an institution possessing official authority, such as the Academy of Medicine is, can be allowed to be without a representative of medicolegal psychiatry, when it is considered that at any moment it may be consulted by the government on technical questions such as arise in connection with the partial or total revision of legislation pertaining to those mentally defective. Then again, from another angle, the Academy of Medicine is entrusted with the awarding of numerous prizes, established by foundations, for work done in the domain of mental diseases. It would not seem appropriate that such prizes be bestowed by committees (appointed by the academy) on which no alienists serve.

The Le Conte Prise

The Academy of Sciences has awarded to Monsieur Georges Claude the Le Conte prize, amounting to 50,000 francs, for his discoveries in the field of industrial chemistry. Monsieur Claude, in a letter expressing his gratitude, announces that he has decided to divide the amount of the prize between the Société de secours des amis de la science and the research laboratories of the Collège de France. As I have often had occasion to remark, our laboratories are lacking in resources, and their lack of funds often hampers scientific research (THE JOURNAL, Nov. 13, 1920, p. 1353).

A Monument to Prof. S. Arloing

The fellow citizens of the late Prof. S. Arloing of Lyons have erected at Cusset, department of Allier, a monument to his memory. The medical faculty of the University of Lyons sent as delegates, at the unveiling, Prof. J. Nicholas and Prof. P. Courmont. The monument was executed by Dr. Paul Richer, professor in the Ecole des Beaux-Arts, Paris.

BUENOS AIRES

(From Our Regular Correspondent)

Dec. 1, 1921.

First Local Congress of Argentine Association

The first local congress of the Argentine Medical Association was held, November 7-17, in its own offices. Reports were submitted from the component societies. The subjects discussed included, in the medical ethics section, suppression of internships, and actual pay for hospital care which many well-to-do persons now receive at a reduced price, no payment being made to physicians or surgeons. The need of correcting this last condition was shown by Dr. Julio A. Passeron. Prof. M. V. Carbonell read a very thorough paper on venereal prophylaxis. In the internal medicine section, reports were presented on encysted pleurisy by Drs. Araoz Alfaro, Castex and Raimondi; and ulcerative colitis by Drs. Bonorino Udaondo and Martini. In the biology section, several reports were presented on the investigation of spirochetes, by P. I. Elizalde; sperm of syphilitic patients, by V. Widakowich; basis and value of the Wassermann test, by E. Lorentz; precipitation reactions in the diagnosis of syphilis, by C. Pico and A. Sordelli. Several subjects were discussed in the surgery section: tumors of the pancreas, by R. Rivarola; pancreatic and pancreatic-splenic mobilization, by A. Gutiérrez; hereditary syphilis of the large bones, by L. Tamini; drainage in gynecology, by A. J. Bengolea, and present tendencies in the treatment of puerperal infection, by E. A. Boero.

The Society of Biology designated a commission formed by Drs. A. Bachman, E. Lorentz, A. Sordelli, F. Rosenbusch, S. Mazza and C. Pico, to work out a standardization scheme for the Wassermann test in Argentina, and requested that afterward it be made official.

Dysentery

The dysentery epidemic that prevailed in previous years in Catamarca has appeared again. The people there attribute it to the eating of green fruit. Polyvalent antidysentery serum has been sent for the treatment of patients.

Universidad del Litoral

The Medical School of Rosario is at last in working order, and the first three years' courses are being given regularly. The following professors have been appointed: H. L. Caretti, semeiology; A. Zeno, surgical pathology; C. Alvarez, medical pathology; M. Llanos, urology; E. Ferreyra, otorhinolaryngology; A. Baraldi, operative medicine; E. Weiler, therapeutics; E. T. Fidanza, dermatology, and F. B. Valdez, anatomy. These appointments have made a good impression, as the appointees are prominent physicians and some of them were already teaching in other schools. The medical profession and the students at Rosario have expressed their displeasure at other professors who have not moved there, but come only two or three times a week. This interferes with the advancement of scientific institutions and therefore is criticized.

Catarrhal Infections

The present summer has been characterized by frequent rains and unexpected and intermittent cold waves. These climatic changes have caused an unusual epidemic of catarrhal affections of the respiratory channels.

Medical Prizes

The Instituto Mitre, the chief function of which is to further and reward works aiming at the scientific and material progress of the country, has decided to include among its annual prizes two prizes of $2,500 each, for biology and natural history subjects, and another for the best paper on healthful and cheap lodgings. The Academy of Medicine has also decided to grant some prizes on the occasion of its centennial in 1922. At the same time there will be inaugurated the Cancer Institute, built under its direction.

Personal

Professor Chutro has given in Chile a series of lectures which have been much praised.——Dr. R. de Gainza, professor of embryology and histology in the medical school, died suddenly.

Plague Considered an Accident

The civil branch of the supreme court has finally decided the lawsuit brought by a woman whose husband died of bubonic plague contracted at his working place. The court sentenced the defendant to pay damages to the widow in an amount to be decided by the judge.

VIENNA

(From Our Regular Correspondent)

Dec. 18, 1921.

Proposed New Legislation Concerning Abortion

The laws of this country have hitherto declared abortion attempted or done by any person, whether medical or nonmedical, a crime, unless due proof was produced that the prospective mother was suffering from a condition which, according to the recognized rules of medical science, would be seriously aggravated by a complication of pregnancy. The socialistic parties having now obtained high influence here, one of their doctrines, that a control of births is very necessary, has been embodied in a bill introduced at the National Assembly by female and male members of the House. The main feature of this bill is the proposition that abortion before the completion of the third month should be free from law restriction if performed by a duly qualified medical person, and if the mother consents to the operation. The paragraphs dealing with these conditions have been formulated as follows: "Whoever induces or tries to induce abortion, without the consent of the mother, at any period of the pregnancy, from whatever motive, shall be considered a criminal offender" (the punishment would be hard labor for from one to ten years, especially if the mother suffered detriment to her health). "A pregnant woman, who purposely, by whatever action, either tries to induce abortion after the third month or causes her labor to produce a dead child, shall be regarded as a trespasser of the law." (Punishment for from one month to twelve months.) "Whoever attempts, without being a medical person to induce abortion with the consent of the mother, before the completion of the third month or whoever induces a woman to cause abortion before the completion of the third month without the aid of a medical person, commits a punishable action." Special punishments are suggested for persons performing abortions as a business. The whole bill is formed in a way to enable any prospective mother to get rid of the fetus before the operation involves serious risk to her, and it encourages or rather necessitates the employment of a competent doctor for this purpose; while abortion after the third month, which is generally regarded as a risk, is severely punished, unless medical reasons make it necessary. It must be admitted that the adoption of this bill would mean a real relief for numerous hardworking, ill-fed women, who at present, under the most unsocial conditions of housing or rather overcrowding and semi-starvation existing here, must regard their eventual pregnancy as a serious danger and severe accident, for which the above law would be the only remedy. Of course the old moral principles do not yet find their way to consent to this novel departure of the law; still it emanates from a real feeling of responsibility on the part of the politicians who

have drawn up the report recommending the adoption of this bill as an advance in social development.

Celebration of Professor Hajek's Birthday

A few days ago the sixtieth birthday of Professor Hajek of world-wide fame as a rhinolaryngologist, was celebrated with quite unusual solemnity by his numerous pupils, friends and comrades. When two years ago he succeeded Chiari to the chair of rhinolaryngology at Vienna University, many well-qualified men predicted that he, being an outsider, would have a very difficult position at the clinic. However, he not only mastered all the adverse conditions, but also has made his clinic the Mekka of students from all parts of the world. His clear insight into pathology, his wonderful teaching ability, his cool and sharp judgment and appreciation of every advancement of knowledge, have won him sincere friends everywhere. Therefore, from Scandinavia and South America, he received, in honor of his birthday, substantial checks to be used for the benefit of his clinic, as well as other tokens of admiration from his present and former pupils and assistants. The American Medical Association of Vienna had also delegated one of its members to represent them on the occasion.

Alarming Increase of Rats in Austria

The board of health has issued to all concerned instructions concerning the spread of rats in this country, warning them of the danger involved thereby. As in other countries, here, too, the numbers of these rodents have multiplied to such a degree that their presence alone is a danger to public welfare, owing to the damage done to articles of food. But as they also act as carriers of plague, and the outbreak of such an epidemic is easily possible because of the dangerous conditions in the near East—Poland, Russia, Roumania and Turkey—great stress is laid on the possibility of destroying them. In several places, Paris, Naples, Cattaro, Fiume, with whom we are doing a good deal of trading, outbreaks have occurred recently. The leaflet of instruction gives details concerning the rats chiefly responsible for the transmission (*Mus rattus-domesticus* and *Mus rattus-migratorius*) and tells how to destroy the germs by the use of typhoid bacteria, which is virulent for them.

Statistical Figures of the Sickness Insurance Clubs in Austria

In a report of the ministry of social welfare, some interesting data are given, relating to the work done in the sickness insurance clubs (krankenkassen) in 1919. By law, every person employed in industrial or commercial concerns, as well as artisans, laborers and temporary factory hands, must be insured as long as they are working there, in one of these clubs. The premium is defrayed by both parties, employer and employee, the former paying 33 per cent., the latter the remainder. There were 740 such clubs in this country, of which only 541 could be considered in that report. The clubs reported on had 785,095 members, of whom 342,994 were female (43 per cent.). Out of each 100 members, 46 on an average became ill and remained under treatment for 30.4 days each (average); 2.15 per cent. of the women were under treatment for childbirth. Per member, the number of days of illness was 13.18 in the males, and 11.39 in the females (average). Per hundred members, 1.97 died in that year. The whole mass of members were divided into wage classes, as their sick pay was paid accordingly. It is interesting to note that only 4 per cent. were in the lowest class, while more than 50 per cent. were in the highest class of income (over 3,000 kronen per month). The yearly income of all these clubs was 74,731,000 kronen. The expenditure was 67,467,000 kronen. This consisted of sick pay (over 36 millions), medicine (3½ millions), hospital expenses (4½ millions), funeral cost (3½ millions), and fees of medical officers and control staff (8 millions). Comparisons with previous years show that not only the number of the insured members has increased considerably, but also the morbidity and mortality incidence has gone up. The sick pay has gone up by 300 per cent., funeral grants more than 300 per cent., and all other items approximately in the same ratio. Only the expenditure for the medical officers went up by a mere 30 per cent. This explains why such an unrest prevails among the physicians of these clubs, and why a prolonged strike is now in force. For about five weeks, none of the clubs in Vienna have been able to provide medical aid for their members. All their physicians have refused to work under the old conditions, and have demanded payment at a rate corresponding to the present evaluation and depreciation of the currency. This being refused, they "struck," and now receive and see the members of clubs only on the same terms as their other private patients. It must be understood that the working classes have obtained wages corresponding nearly to the drop of the currency rates. The outcome of the conflict between the two parties is of such serious import to the profession—it will decide whether the physician will be "proletarized" or not—that the 4,800 physicians are backed by the entire profession and the hospitals in their attitude.

Vital Statistics for 1920

There lived in Vienna, Jan. 31, 1920, 1,842,105 persons, of whom during that year there died 44,412, including the newborn and still-born. Out of this number, 1,250 deaths were due to trauma (suicide, accidents, manslaughter). That year 26,984 children were born alive, 1,020 dead. More than 30,000 marriages were registered. While 5,260 children died before the age of 1 year, 9,088 persons were more than 70 years of age at death. The population of the entire Austrian republic on that date was 6,067,073, so that Vienna alone had a trifle more than 30 per cent. Among the entire population, there were registered 87,600 marriages. The number of births was 145,240, of which 4,810 were stillbirths. Nearly 24,000 children died before completing their first year. These figures show that Vienna alone is responsible for the saving of a great many persons less than 1 year of age or more than 70; but it has less than its percentage of births.

Report of American Relief Administration in Austria

The medical Report of the American Relief Administration, which has just been published, shows what a tremendous amount of charity work has been done by private enterprises of American benefactors in this country. The physicians state that 307,000 of the 390,000 schoolchildren living in Vienna were underfed, and that of a total of 1,182,000 children in Austria less than 15 years of age, 930,000 had to be classified as underfed. Of these, 400,000 were synchronously fed by the American Relief Administration. Gradually, it was possible to reduce the number to 200,000 and this number will remain stationary until June, 1922, when the relief measures will terminate. No less than 35,665 tons of food articles of high nutritive value, worth $10,000,000, were used from May, 1919, until September, 1921. The feeding was placed on a scientific basis by using Pirquet's new system, thus producing an increase of weight and general physical development up to 24 per cent. of the original condition. The relief will in future be given exclusively to children in towns and industrial districts, since the rural population is not only well off in all respects now, but even better than at any time before the war. Still the conditions in towns are far from satisfactory, and necessitate not only free feeding but the distribution of warm clothing. It is hoped that in about half a year Austria will be in a position to find its own food for these children.

THE REFERENDUM ON THE USE OF ALCOHOL IN THE PRACTICE OF MEDICINE

FINAL REPORT

Questionnaires were sent to 53,900 physicians, representing 37 per cent. of the physicians of the United States, and 31,115, or 58 per cent., were returned.

Of physicians indicating form of practice, 25,889, or 83 per cent., were general practitioners; 2,401 were engaged in the surgical specialties, and 2,825 in the nonsurgical specialties.

Do you regard whisky as a necessary therapeutic agent in the practice of medicine?

The total vote in all states on whether or not whisky was necessary in the treatment of disease was 30,843; 15,625, or 51 per cent., answered yes, and 15,218, or 49 per cent., answered no.

Do you regard beer as a necessary therapeutic agent in the practice of medicine?

The total number of votes cast for beer was 30,597, and of these 22,663, or 74 per cent., were negative, and 7,934, or 26 per cent., were affirmative.

Do you regard wine as a necessary therapeutic agent in the practice of medicine?

The vote on wine was: no, 20,648, or 68 per cent., and yes, 9,803, or 32 per cent.

COMMENT ON QUESTIONS AS TO NECESSITY OF WHISKY, BEER AND WINE

The vote in twenty states was affirmative for whisky, while in twenty-nine the majority vote was negative. In all the states, however, the majority vote in regard to beer and wine was negative. The vote in the larger cities and rural communities is interesting. In regard to the necessity of whisky as a therapeutic agent, 58 per cent. of the vote in cities is in the affirmative, while of the vote in the rural districts, 54 per cent. is in the negative. For wine and beer, however, the majority in both cities and rural districts is decidedly in the negative, the percentage of negative votes being higher in the rural districts.

A table shows the vote on whisky, beer and wine by districts. The two districts comprising, respectively, the North Atlantic and the South Atlantic states give a majority vote affirming that whisky is essential as a therapeutic agent, while in the three districts comprising, respectively, the North Central, South Central and Western states, the majority vote is in the negative. In all districts alike the majority vote in regard to beer and wine is decidedly in the negative.

In the fifty largest cities there was a total of 8,855 votes on the question as to the necessity of whisky as a therapeutic agent. Of these, 5,320, or 60 per cent., were that whisky was necessary, while 3,535 were in the negative. In regard to beer, however, the vote was to the contrary, a total of 5,903 voting that it was not necessary, while only 2,854, or 33 per cent., voted that it was necessary. Of wine also the majority vote was negative, there being 4,939, or 57 per cent., negative, while 3,782, or 43 per cent., were affirmative.

Thirty-two of the fifty largest cities expressed a majority vote affirming that whisky was necessary as a therapeutic agent, while seven gave a majority vote favoring wine, and only two gave a majority vote favoring beer, these two cities being Jersey City, N. J., and Scranton, Pa.

If "yes," in what diseases or conditions do you regard whisky, beer or wine as necessary?

No tabulation of the replies to these three questions is presented. When the replies began to come in, an attempt was made to tabulate the answers. Diseases were classified in main groups, a number given to each group, and the numbers indicated on the questionnaires by the physicians in charge of the tabulation. After several thousand replies had been passed on, it became clear that nothing further would be gained by tabulating all of the replies on this point, since the relative numbers of those using alcoholic beverages in certain diseases remained the same, whether 100, 500 or 1,000 questionnaires were concerned.

Of those who considered whisky necessary in the practice of medicine, a large majority (about 75 per cent.) used it in pneumonia, influenza and other acute infectious diseases.

GRAPH SHOWING PERCENTAGE OF RETURNS AND PERCENTAGE VOTE ON THERAPEUTIC NECESSITY OF WHISKY, BEER AND WINE. BLACK: YES. SHADED: NO.

About 35 per cent. believed it necessary in the treatment of diseases incident to old age and in general debility. About 10 per cent. considered whisky of value in convalescence, diabetes, heart failure and shock. Scattering replies included anemia, asthma, catarrh, cancer, phenol (carbolic acid) poisoning, colds, dyspepsia, dysmenorrhea, neuritis, rheumatism, snake bite, heart disease, blood pressure disturbances, toxemia of prepnancy, uremia, alcoholism and insomnia. Particularly impressive was the sincerity of the belief of a large number of physicians in the therapeutic efficacy of whisky in a limited number of diseases, but equally impressive was the expressed belief of a limited number of physicians of its necessity in a large number of diseases. Some physicians in our largest cities included large and varied lists of conditions. One hardly expected physicians in metropolitan cities to lay emphasis on the value of whisky in snake bites, since the only snakes available are carefully guarded in zoological gardens. It was clear, however, that the therapeutic teaching in our colleges and in our textbooks as to the value of whisky had had a definite influence; authorities for the use of whisky in the diseases mentioned were cited by many physicians in their comments on the questionnaire. On the whole, these replies yield a vast amount of information as to the general practice of physicians using whisky therapeutically.

The conditions chiefly cited by those recommending beer were lactation, convalescence, debility, dyspepsia, anemia and old age.

The conditions chiefly cited by those recommending wine were the same as for beer; emphasis was also laid on its use as a substitute for whisky in infectious diseases and in other conditions.

Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?

In replying to this question, 6,423 physicians, or 22 per cent., stated that such instances had occurred, and 23,352 physicians, or 78 per cent., stated that they had not seen such cases. No attempt has been made to tabulate in any way the number of physicians seeing any certain number of cases. The answers were disconcerting—humorous, tragic and even rabid. Quite often the answers were to the effect that harm had been done because of the quality of the whisky supplied, in some cases death or blindness having occurred. In other instances, physicians stated that they had known of as many as 500 cases of suffering or deaths because of enforcement of prohibition laws. It was especially disconcerting when an answer indicated that the physician had a permit and had prescribed whisky on various occasions, but nevertheless stated that he had seen cases of death or unnecessary suffering as the result of prohibition law enforcement. This question also brought out the fact that the medical profession is made up of human beings, and that many are liable to look at this matter as much from the social, moral and political point of view as from the medical and scientific aspects.

How many times have you found it advisable to prescribe these liquors in a month?

Before more than a few hundred of the answers to the questionnaire had been received, it became evident that the answers to this particular question were impossible to tabulate. It was, therefore, decided to keep record, not of the number of times the physician had found it advisable to prescribe alcoholic liquors, but of the number of physicians who reported they had found it either advisable or not advisable to prescribe any whisky, beer or wine.

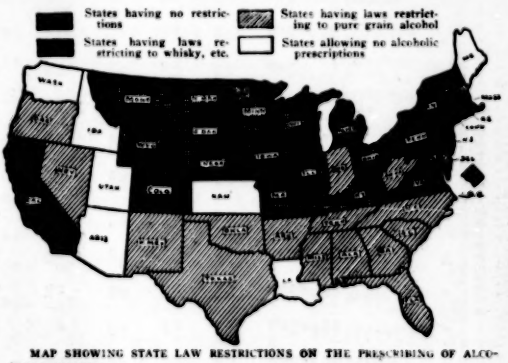
As reference to the final table will show, out of the 31,115 physicians who replied to the questionnaire, 24,494 expressed an opinion on the advisability of prescribing whisky. Of this number, 10,884, or 44 per cent., stated that they had found it advisable to prescribe whisky one or more times during a month, while 13,610, or 56 per cent., stated that they had not found it necessary to prescribe whisky at any time.

On the question of beer, 2,854, or 13 per cent., stated that they had found it advisable to prescribe the product, while 18,686 physicians, or 87 per cent., said they had not found it advisable. On the question of wine 4,674 physicians, or 21 per cent., stated that they had found it advisable to prescribe it, while 17,397 physicians, or 79 per cent., said that they had not found it advisable.

It will be noticed that on the advisability of using whisky, the physicians of the country as a whole stand in the proportion of 44 per cent. finding it advisable to 56 per cent. not finding it advisable. These figures are about reversed for the physicians in cities of 50,000 population or over. In these cities the replies showed that 54 per cent. of the physicians declared the use of whisky advisable, as compared with 46 per cent. who found it not advisable. On the question of beer, 16 per cent. of the physicians of the cities found it advisable, while 84 per cent. found it not advisable. For wine, 30 per cent. of the physicians of the cities found its prescription advisable, while 70 per cent. stated they had not found it advisable.

Analyzing the figures still further, it is worthy of note that, taking four cities that are generally believed to have been large consumers, as well as manufacturers, of beer, we find that the medical profession of those cities is not, apparently, convinced of the therapeutic desirability of this product. For example, in Chicago, 91 physicians stated that they had found it advisable to prescribe beer, against 371 who had not found it advisable. In St. Louis, 34 had found it advisable, as against 142 who had not found it advisable. In Milwaukee, 22 stated that they had found it advisable, while 58 had not found it advisable. In Cincinnati, 9 stated they had found it advisable, while there were 99 who declared they had not found it advisable.

No special part of the country can properly be spoken of as the wine consuming portion; but the state of California was, before the advent of prohibition, preeminently the state of wine manufacturing, or at least of the wine making interests. Of 1,227 physicians of California who replied to the third part of this question, 415 stated that they had found it advisable to prescribe wine, while 812 stated they had not found it advisable.



MAP SHOWING STATE LAW RESTRICTIONS ON THE PRESCRIBING OF ALCOHOLIC LIQUORS.

Reverting again to the question as to the advisability of prescribing whisky, many explanations might be given to explain the fact that physicians in the large urban centers disagree with their confrères in the less populous parts of the country. One explanation might be that the physicians in the large cities, where the stress and strain of modern civilization is at its greatest, come in contact with a larger number of cases in which the sedative influence of alcohol is therapeutically desirable. Another explanation might be that, as it is generally admitted that there was a greater per capita consumption of spirituous liquors in the large centers of population than in the rural districts, the patients of physicians in such cities show the results of deprivation of alcohol more acutely.

Do you hold a federal permit?

On this question, 8,622 physicians, or 39 per cent., stated that they held federal permits, and 13,591, or 61 per cent., replied that they did not hold federal permits. It is especially interesting to note that in many states where a physician cannot use a federal permit on account of restrictions of the state law, a certain number of physicians hold such permits. As will be noted, many of those who do not hold permits did not so indicate, so that while there are 31,115

RESULTS OF REFERENDUM ON THE THERAPEUTIC USE OF ALCOHOL

RESULTS BY STATES

Marginal No.		1 Alabama	2 Arizona	3 Arkansas	4 California	5 Colorado	6 Connecticut	7 Delaware	8 Dist. Columbia	9 Florida	10 Georgia	11 Idaho	12 Illinois	13 Indiana	14 Iowa	15 Kansas	16 Kentucky	17 Louisiana	18 Maine	19 Maryland	20 Massachusetts	21 Michigan	22 Minnesota	23 Mississippi	24 Missouri	25 Montana	26 Nebraska	27 Nevada	Marginal No.
1	Number of physicians	2,405	280	2,450	6,706	1,817	1,789	282	1,080	1,281	2,405	558	10,651	4,446	3,536	2,550	3,322	2,091	1,105	2,264	5,950	4,561	2,028	1,761	5,921	620	1,905	147	1
2	Questionnaires sent	703	173	640	2,261	615	714	113	444	464	1,049	227	4,245	1,529	1,488	1,026	1,094	734	471	980	2,405	1,751	1,254	549	1,947	263	870	73	2
3	Questionnaires returned	451	110	348	1,514	370	394	74	232	272	502	161	2,141	999	1,004	741	544	381	271	500	1,343	1,035	820	315	1,089	192	565	51	3
4	Percentage of returns	64	64	54	68	69	55	65	52	59	48	71	50	68	67	73	53	51	58	54	56	59	65	58	56	73	65	68	4
5	General practitioners	382	94	319	1,108	295	297	61	187	249	421	146	1,782	811	894	673	466	324	225	407	1,019	869	648	291	903	172	479	41	5
6	Surgeons	30	7	12	157	21	42	7	17	13	39	4	199	66	63	30	18	21	17	48	155	77	94	13	95	10	48	7	6
7	Specialists	19	9	17	104	43	54	6	28	6	30	11	190	69	47	38	34	36	19	45	169	90	78	11	100	10	38	8	7
	Do you regard whisky as a necessary therapeutic agent in the practice of medicine?																												
8	Yes	161	55	150	749	154	226	47	149	122	210	70	1,149	382	476	289	232	199	153	319	726	470	532	133	561	159	272	30	8
9	No	266	53	186	756	214	186	26	83	138	281	90	984	598	522	448	288	178	115	180	602	554	474	182	509	81	291	19	9
	Do you regard beer as a necessary therapeutic agent in the practice of medicine?																												
10	Yes	102	32	73	365	73	119	19	83	72	174	38	668	187	220	150	131	109	71	154	359	247	176	70	289	55	165	14	10
11	No	321	81	268	1,175	297	271	55	145	192	381	120	1,428	795	775	589	405	306	195	334	958	749	626	242	798	133	394	35	11
	Do you regard wine as a necessary therapeutic agent in the practice of medicine?																												
12	Yes	96	27	91	569	82	153	19	106	84	112	46	804	311	342	165	145	146	73	216	496	372	174	66	404	82	162	21	12
13	No	317	73	222	959	274	226	50	119	180	320	113	1,288	740	751	563	375	231	194	276	822	739	618	240	676	105	391	99	13
	Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?																												
14	Yes	95	34	67	291	62	96	27	49	57	94	49	605	188	213	157	109	69	62	119	218	245	115	52	244	48	133	17	14
15	No	317	74	247	1,158	297	283	42	170	197	377	105	1,589	737	769	544	415	288	180	360	1,072	756	679	250	808	135	396	31	15
	How many times have you found it advisable to prescribe these liquors in a month?																												
16	Whisky: No. of physicians stating times advisable	98	25	89	608	112	169	16	101	84	137	42	799	163	330	158	172	157	83	227	549	310	283	75	406	91	157	11	16
17	No. of physicians stating no times advisable	245	42	174	637	167	130	32	51	120	251	90	764	548	494	449	270	159	128	189	574	576	495	177	473	45	271	22	17
18	Beer: No. of physicians stating times advisable	46	10	30	160	27	54	4	20	33	50	22	304	65	95	69	37	33	31	47	74	104	59	28	101	28	85	5	18
19	No. of physicians stating no times advisable	267	58	147	992	225	201	39	86	143	295	106	1,091	664	647	487	391	267	168	223	792	660	571	208	670	78	302	25	19
20	Wine: No. of physicians stating times advisable	40	15	43	415	41	82	5	66	34	49	24	308	64	95	74	54	78	37	101	286	121	89	26	208	61	88	8	20
21	No. of physicians stating no times advisable	272	54	138	812	224	173	38	66	138	295	101	1,060	655	651	489	374	226	163	305	582	676	552	214	611	61	301	25	21
	Do you hold a federal permit?																												
22	Yes	23	4	32	682	66	133	...	103	27	9	4	1,096	27	198	26	141	167	11	193	660	161	272	30	343	96	30	1	22
23	No	152	27	159	636	213	216	21	93	112	204	41	773	280	513	197	303	158	84	142	504	577	418	127	610	71	155	10	23
	The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?																												
24	Yes (limit not specified)	77	19	70	240	66	80	4	49	61	86	31	225	121	168	103	92	56	34	71	231	184	95	73	198	48	89	4	24
25	Restricted absolutely	97	12	70	148	51	13	11	6	23	105	24	243	249	159	170	97	39	27	26	53	119	115	58	121	6	106	7	25
26	1 to 50 prescriptions	29	11	32	152	30	18	7	5	30	25	14	242	89	116	74	70	33	15	18	93	126	120	25	97	19	48	8	26
27	51 to 100 prescriptions	20	11	34	230	67	53	8	33	28	67	24	417	114	174	91	86	68	41	75	290	182	175	33	178	25	79	6	27
28	More than 100 prescriptions	6	..	6	26	2	1	1	4	6	1	1	61	10	13	5	4	8	3	5	41	16	11	5	28	...	...	...	28
29	Total	265	58	212	885	307	165	31	97	148	284	93	1,188	583	651	503	309	193	130	193	717	609	517	194	595	98	322	25	29
30	No restriction	143	51	116	559	130	216	40	120	109	189	61	887	291	355	304	214	140	122	235	583	374	271	109	478	88	326	25	30
	In your opinion, should physicians be restricted in prescribing whisky, beer and wine?																												
31	Yes	271	66	241	875	217	180	45	105	165	309	99	1,163	620	679	521	328	175	142	186	665	638	529	202	612	115	340	28	31
32	No	128	32	101	580	186	196	36	113	94	178	69	891	275	350	290	198	190	117	289	600	502	242	101	439	70	196	19	32

V. 192

RESULTS BY STATES—Continued

Marginal No.		28 New Hampshire	29 New Jersey	30 New Mexico	31 New York	32 North Carolina	33 North Dakota	34 Ohio	35 Oklahoma	36 Oregon	37 Pennsylvania	38 Rhode Island	39 South Carolina	40 South Dakota	41 Tennessee	42 Texas	43 Utah	44 Vermont	45 Virginia	46 Washington	47 West Virginia	48 Wisconsin	49 Wyoming	Cities	Percentage	Rural	Percentage	Grand Total	Percentage	Marginal No.
1	Number of physicians	641	3,360	329	14,264	2,220	556	8,092	2,622	1,145	11,348	776	1,452	658	3,325	6,505	496	504	2,545	1,797	1,717	2,750	367	61,413	..	84,196	..	145,608	..	1
2	Questionnaires sent	390	1,504	217	5,575	885	310	2,732	930	478	4,430	296	606	314	1,025	2,042	229	253	982	715	746	1,194	145	21,304	..	32,696	..	53,999	37	2
3	Questionnaires returned	186	857	137	3,068	445	193	1,666	552	282	2,575	161	250	203	595	1,196	133	154	473	434	444	707	92	11,311	..	19,804	..	31,115	..	3
4	Percentage of returns	62	56	63	57	50	62	61	60	59	58	54	51	65	51	59	58	61	51	61	60	59	63	53	..	61	..	58	..	4
5	General practitioners	163	730	133	2,324	370	170	1,361	477	237	2,143	129	229	188	444	1,041	112	138	402	367	401	593	86	7,974	70	17,965	91	25,939	83	5
6	Surgeons	10	59	1	348	25	10	104	42	19	157	17	13	7	37	69	8	8	32	41	26	51	6	1,642	15	750	4	2,401	8	6
7	Specialists	13	67	8	411	50	13	291	34	26	275	15	17	8	45	86	13	8	39	31	17	66	2	1,745	15	1,090	5	2,825	9	7
	Do you regard whisky as a necessary therapeutic agent in the practice of medicine?																												
8	Yes	117	520	58	2,015	181	92	721	196	121	1,414	86	117	89	224	491	64	79	270	201	206	342	52	6,504	58	9,121	46	15,625	51	8
9	No	68	308	76	1,041	262	88	931	351	161	1,138	65	140	120	296	697	68	74	202	225	234	359	40	4,705	42	10,513	54	15,218	49	9
	Do you regard beer as a necessary therapeutic agent in the practice of medicine?																												
10	Yes	55	272	24	1,067	72	49	328	117	65	611	55	59	44	90	266	31	27	112	112	106	188	31	3,481	31	4,453	23	7,934	26	10
11	No	128	550	110	1,939	370	141	1,316	431	215	1,930	104	196	157	422	905	97	124	357	315	328	509	60	7,610	69	15,053	77	22,663	74	11
	Do you regard wine as a necessary therapeutic agent in the practice of medicine?																												
12	Yes	69	354	37	1,416	68	56	416	117	78	817	65	53	49	101	315	37	46	124	126	123	221	35	4,549	41	5,254	27	9,803	32	12
13	No	112	460	95	1,570	367	134	1,222	422	208	1,706	95	202	150	409	867	89	103	340	297	308	476	55	6,484	59	14,164	73	20,648	68	13
	Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?																												
14	Yes	57	181	34	665	61	54	324	116	74	416	34	54	50	117	276	35	31	102	123	114	116	31	2,268	21	4,135	22	6,403	22	14
15	No	121	621	98	2,266	345	131	1,288	419	199	2,076	122	198	144	389	882	95	114	338	287	306	507	59	8,457	79	14,896	78	23,353	78	15
	How many times have you found it advisable to prescribe these liquors in a month?																												
16	Whisky: No. of physicians stating times advisable	70	361	27	1,443	108	49	535	102	63	1,132	82	55	43	136	301	26	62	201	136	116	294	28	4,708	54	6,181	39	10,884	44	16
17	No. of physicians stating no times advisable	62	303	72	879	223	102	954	315	145	1,024	46	138	103	268	636	69	59	188	214	225	319	43	3,994	46	9,616	61	13,610	56	17
18	Beer: No. of physicians stating times advisable	12	76	8	346	31	25	139	54	26	306	14	15	22	37	104	10	4	22	62	33	84	13	1,145	16	1,709	12	2,854	13	18
19	No. of physicians stating no times advisable	98	470	81	1,400	286	119	1,278	337	164	1,656	79	154	115	284	741	77	83	341	246	306	479	48	6,005	84	12,591	88	18,686	87	19
20	Wine: No. of physicians stating times advisable	25	145	14	675	30	31	391	80	33	394	35	12	19	42	117	11	22	46	71	49	155	14	2,254	30	2,429	17	4,674	21	20
21	No. of physicians stating no times advisable	85	425	78	1,280	293	114	1,210	334	162	1,923	69	156	112	286	721	77	73	224	239	291	427	44	5,381	70	12,016	83	17,397	79	21
	Do you hold a federal permit?																												
22	Yes	61	257	8	1,367	13	11	349	17	9	1,123	100	9	9	36	121	2	67	164	10	15	206	18	4,429	51	4,193	31	8,622	39	22
23	No	100	365	61	1,223	175	61	982	182	56	1,114	55	148	85	225	857	22	72	257	112	180	310	51	4,340	49	9,251	69	13,591	61	23
	The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?																												
24	Yes (limit not specified)	34	105	26	362	66	89	271	99	54	338	20	52	31	97	208	27	42	50	90	77	85	10	1,575	15	3,214	17	4,789	16	24
25	Restricted absolutely	4	41	12	117	79	2	213	136	22	185	8	52	25	65	197	22	8	37	68	65	84	15	785	7	2,871	15	3,656	12	25
26	1 to 50 prescriptions	7	41	11	171	36	18	177	53	39	228	11	12	30	57	96	13	10	39	43	37	103	6	873	8	1,893	10	2,766	9	26
27	51 to 100 prescriptions	21	144	21	544	49	35	312	55	34	451	27	27	27	63	191	19	23	118	61	56	155	7	2,114	19	3,070	16	5,184	18	27
28	More than 100 prescriptions	...	4	2	55	7	1	6	6	3	24	1	4	1	3	21	1	..	7	8	2	21	1	179	2	237	2	416	2	28
29	Total	66	335	72	1,269	227	195	979	349	152	1,226	67	146	114	307	713	83	83	253	265	227	447	39	5,226	51	11,305	60	16,521	57	29
30	No restriction	111	475	57	1,667	185	73	616	176	87	1,246	95	98	85	187	447	38	66	214	124	181	245	32	5,305	49	7,691	40	12,996	43	30
	In your opinion, should physicians be restricted in prescribing whisky, beer and wine?																												
31	Yes	76	319	76	1,241	277	103	1,014	360	193	1,221	67	167	117	340	750	80	87	256	293	279	423	43	5,527	51	11,739	62	17,266	56	31
32	No	98	499	55	1,713	151	76	583	167	84	1,257	89	85	77	162	402	34	65	208	122	149	255	47	5,217	49	7,344	38	12,561	42	32

RESULTS OF REFERENDUM ON THE THERAPEUTIC USE OF ALCOHOL

RESULTS IN FIFTY LARGE CITIES

Marginal No.		Greater N. Y. 5,621,151	Chicago 2,701,705	Philadelphia 1,823,158	Detroit 993,739	Cleveland 796,258	St. Louis 772,897	Boston 748,060	Baltimore 733,826	Pittsburgh 588,343	Los Angeles 576,673	San Francisco 506,410	Buffalo 506,775	Milwaukee 457,147	Washington 437,571	Newark 414,216	Cincinnati 401,247	New Orleans 387,219	Minneapolis 380,582	Kansas City, Mo. 324,410	Seattle 315,652	Indianapolis 314,194	Jersey City 297,564	Rochester 295,750	Portland, Ore. 258,288	Denver 256,369	Toledo 243,109	Marginal No.
1	Number of physicians	9,447	5,365	3,467	1,551	1,346	1,754	2,666	1,321	1,221	1,585	1,312	857	654	1,589	538	863	646	606	919	586	709	250	466	530	786	453	1
2	Questionnaires sent	2,759	1,963	1,224	509	412	531	1,103	350	491	557	469	313	222	444	195	276	225	298	328	187	304	95	151	152	221	169	2
3	Questionnaires returned	1,561	866	681	288	226	280	452	266	298	320	240	163	115	222	112	128	98	184	180	111	156	44	90	99	123	85	3
4	Percentage of returns	57	43	56	55	55	52	41	76	61	57	51	52	52	52	57	46	41	62	55	59	51	46	60	65	53	53	4
5	General practitioners	1,063	641	500	214	164	192	294	192	226	216	152	124	83	187	86	80	59	113	119	82	105	39	59	71	81	58	5
6	Surgeons	230	135	65	34	21	46	62	42	32	62	47	17	18	17	9	14	15	41	34	19	24	5	14	11	20	12	6
7	Specialists	268	90	116	40	41	42	76	32	40	62	41	22	14	28	17	34	24	29	27	10	27	..	17	17	22	15	7
	Do you regard whisky as a necessary therapeutic agent in the practice of medicine?																											
8	Yes	1,120	635	455	145	116	160	250	168	177	186	149	115	72	149	79	62	58	71	109	66	75	25	44	41	53	43	8
9	No	439	228	221	140	107	99	195	98	118	131	90	46	37	83	32	65	38	108	70	51	81	9	44	58	69	42	9
	Do you regard beer as a necessary therapeutic agent in the practice of medicine?																											
10	Yes	640	330	215	95	58	96	124	85	60	101	82	71	46	83	39	36	30	35	60	35	43	24	22	21	36	21	10
11	No	879	510	453	186	164	183	319	176	235	219	153	88	64	145	71	91	66	146	116	74	111	20	68	76	97	62	11
	Do you regard wine as a necessary therapeutic agent in the practice of medicine?																											
12	Yes	856	413	290	109	71	142	185	123	96	148	120	89	58	106	51	40	43	36	87	57	45	28	33	25	32	22	12
13	No	664	422	369	172	151	122	258	142	198	169	116	71	52	119	59	87	55	143	92	70	108	16	52	74	88	61	13
	Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?																											
14	Yes	334	158	135	73	37	65	71	65	39	75	57	51	31	49	19	21	14	17	39	34	39	17	13	22	17	22	14
15	No	1,129	622	510	199	183	201	363	193	248	231	164	107	79	170	86	103	78	161	132	66	113	25	71	72	100	61	15
	How many times have you found it advisable to prescribe these liquors in a month?																											
16	Whisky: Number of physicians stating times advisable	767	365	283	89	105	124	178	128	145	151	147	86	67	101	53	39	50	69	88	54	25	21	42	29	40	22	16
17	Number of physicians stating no times advisable	334	226	194	148	90	89	131	70	110	112	55	48	30	51	30	70	22	85	59	48	78	13	28	52	59	48	17
18	Beer: Number of physicians stating times advisable	224	91	70	44	9	34	19	33	23	38	34	24	22	30	14	9	5	5	22	13	10	7	4	10	4	11	18
19	Number of physicians stating no times advisable	540	371	365	161	177	142	308	121	193	171	132	79	58	86	54	99	69	128	89	57	92	22	45	56	83	64	19
20	Wine: Number of physicians stating times advisable	424	151	140	54	25	70	98	66	52	108	85	38	48	66	23	12	27	13	61	17	16	12	11	8	11	12	20
21	Number of physicians stating no times advisable	457	337	315	157	167	120	180	104	171	134	95	73	42	66	49	93	50	122	74	54	87	18	41	57	76	63	21
	Do you hold a federal permit?																											
22	Yes	750	520	356	39	97	120	224	113	157	148	157	98	69	103	61	30	42	76	76	3	8	14	37	4	36	18	22
23	No	553	222	233	102	104	124	171	114	97	124	46	42	28	93	38	73	39	78	80	21	46	22	36	20	72	52	23
	The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?																											
24	Yes (limit not specified)	188	75	92	42	30	42	70	47	36	39	36	30	11	49	18	11	13	28	31	14	28	8	11	22	28	15	24
25	Restricted absolutely	81	56	18	25	11	7	25	3	9	21	9	4	6	6	7	8	4	21	14	18	20	2	3	23	13	6	25
26	1 to 50 prescriptions	57	91	34	25	27	24	40	3	21	33	18	6	8	5	2	12	6	34	14	8	15	2	10	10	7	5	26
27	51 to 100 prescriptions	226	186	115	45	57	42	92	39	68	84	64	33	24	33	19	39	21	56	35	23	22	2	24	9	21	21	27
28	More than 100 prescriptions	25	29	9	10	..	8	15	3	3	5	4	3	4	4	..	..	1	3	6	2	..	..	..	1	1	..	28
29	Total	627	439	268	157	133	123	242	95	137	182	131	66	53	97	41	69	45	142	100	65	85	14	48	65	70	49	29
30	No restriction	959	367	384	121	86	144	205	159	144	127	102	99	61	120	68	58	50	37	74	33	54	29	37	27	34	31	30
	In your opinion, should physicians be restricted in prescribing whisky, beer and wine?																											
31	Yes	508	415	329	150	133	122	209	90	141	180	119	67	44	106	45	62	33	127	108	74	104	13	44	60	74	32	31
32	No	976	415	606	127	64	140	215	156	141	127	108	90	64	113	65	53	57	38	62	39	45	16	49	27	46	31	32

V. 192

RESULTS IN FIFTY LARGE CITIES—Continued

Marginal No.		Providence 237,595	Columbus 237,031	Louisville 234,891	St. Paul 234,595	Oakland 216,261	Akron 208,435	Atlanta 200,616	Omaha 191,601	Worcester 179,754	Birmingham 178,276	Syracuse 171,717	Richmond 171,667	New Haven 162,519	Memphis 162,351	San Antonio 161,379	Dallas 158,976	Dayton 116,350	Bridgeport 146,716	Houston 138,276	Hartford 138,036	Scranton 137,783	Grand Rapids 137,634	Paterson 135,875	Youngstown 132,358	Grand Total 35,676,040	Percentage	Marginal No.
1	Number of physicians	441	546	616	670	353	276	683	445	276	316	257	324	316	426	280	265	264	176	291	260	268	272	145	178	69,170	..	1
2	Questionnaires sent	164	201	192	197	127	95	167	112	98	114	130	112	131	116	85	121	98	62	105	99	68	91	52	68	16,822	24	2
3	Questionnaires returned	67	107	76	84	68	59	80	121	61	86	84	59	71	68	52	60	59	58	69	69	52	59	52	66	6,854	68	3
4	Percentage of returns	59	53	50	65	54	59	48	58	62	65	65	53	54	57	62	50	51	52	57	61	47	63	54	59	.....	..	4
5	General practitioners	74	68	82	51	59	59	69	76	62	52	58	65	45	58	69	54	57	71	44	55	52	52	59	59	6,270	70	5
6	Surgeons	15	10	5	16	19	6	16	24	6	14	14	9	13	14	6	13	6	8	8	11	5	8	7	4	1,505	24	6
7	Specialists	8	21	16	17	8	11	13	21	13	6	12	5	13	16	7	14	7	6	8	14	4	8	2	7	1,409	16	7
	Do you regard whisky as a necessary therapeutic agent in the practice of medicine?																											
8	Yes	59	49	46	42	26	25	36	70	53	13	40	36	29	27	22	25	19	19	25	22	23	13	15	19	5,230	60	8
9	No	36	58	28	41	42	31	44	41	28	38	43	23	22	37	20	23	30	13	35	28	9	25	13	21	3,985	40	9
	Do you regard beer as a necessary therapeutic agent in the practice of medicine?																											
10	Yes	26	22	25	25	13	8	21	46	14	10	20	10	22	10	16	12	10	11	10	14	17	4	7	9	2,654	22	10
11	No	58	64	50	54	54	47	59	72	45	40	62	48	47	55	34	46	39	21	50	45	15	35	21	31	5,906	67	11
	Do you regard wine as a necessary therapeutic agent in the practice of medicine?																											
12	Yes	41	31	28	24	24	13	23	51	19	6	27	14	24	13	24	17	13	13	16	19	22	9	10	10	3,782	43	12
13	No	55	75	46	54	42	42	56	63	41	44	56	44	45	51	29	42	37	19	41	40	9	27	17	29	4,889	57	13
	Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?																											
14	Yes	22	13	19	16	4	7	5	25	8	6	15	7	16	9	19	13	4	8	21	5	7	5	5	11	1,786	21	14
15	No	69	88	52	63	59	47	63	51	52	44	68	49	51	52	33	44	45	24	30	54	24	33	21	29	6,652	79	15
	How many times have you found it advisable to prescribe these liquors in a month?																											
16	Whisky: Number of physicians stating times advisable	52	38	36	26	29	12	15	36	23	13	26	20	26	15	25	19	15	14	14	23	20	8	11	18	3,895	57	16
17	Number of physicians stating no times advisable	29	57	30	36	30	37	37	46	30	34	45	19	30	34	15	24	31	15	33	21	6	27	12	20	2,908	43	17
18	Beer: Number of physicians stating times advisable	12	5	6	7	5	5	7	26	3	6	4	..	8	5	10	6	3	4	4	2	9	1	4	5	946	17	18
19	Number of physicians stating no times advisable	50	76	48	50	44	44	45	54	38	37	67	43	39	39	30	29	41	22	38	36	12	29	17	31	4,671	68	19
20	Wine: Number of physicians stating times advisable	24	14	16	12	16	8	6	25	6	3	13	6	13	5	13	7	7	8	5	12	12	1	4	6	1,887	28	20
21	Number of physicians stating no times advisable	44	68	38	46	38	41	45	54	34	38	59	38	36	38	18	28	28	23	36	31	12	29	17	30	4,081	62	21
	Do you hold a federal permit?																											
22	Yes	66	93	41	41	31	4	2	8	22	1	27	25	22	2	15	15	5	12	4	19	13	7	15	9	3,783	53	22
23	No	30	54	23	34	30	40	23	22	25	14	42	18	42	22	27	36	33	17	30	36	15	24	12	22	3,390	47	23
	The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?																											
24	Yes (limit not specified)	9	10	4	14	8	7	21	23	9	9	7	3	15	9	10	7	4	3	12	9	..	8	5	6	1,219	14	24
25	Restricted absolutely	2	11	6	8	10	6	12	14	2	15	4	3	3	10	1	4	6	3	5	3	..	5	..	6	511	6	25
26	1 to 50 prescriptions	6	14	11	11	5	8	7	9	4	5	10	6	4	10	3	10	3	..	6	3	3	6	2	3	680	8	26
27	51 to 100 prescriptions	19	22	12	23	18	9	8	19	18	6	26	21	6	10	10	10	14	8	11	17	6	7	4	9	1,705	20	27
28	More than 100 prescriptions	..	..	1	..	3	..	..	..	..	..	2	..	..	..	..	1	..	..	..	1	..	..	..	..	..	144	2	28
29	Total	36	57	34	56	46	30	48	65	33	35	49	33	28	30	24	32	27	14	34	33	9	26	11	24	4,259	50	29
30	No restriction	30	40	38	26	17	23	26	46	25	10	31	25	38	20	27	26	23	18	26	26	22	18	16	15	4,240	50	30
	In your opinion, should physicians be restricted in prescribing whisky, beer and wine?																											
31	Yes	36	66	35	53	42	34	49	62	32	25	31	25	33	41	31	36	29	12	25	32	8	20	12	26	4,220	50	31
32	No	66	38	33	22	19	20	27	32	25	8	30	23	34	22	21	21	20	13	22	27	24	9	15	13	4,220	50	32

questionnaires tallied, only some 22,000 replies cover the question of federal permit. Estimated on the proportions of 8,622 federal permits among 31,115 physicians, it might be said that there are in the United States approximately 35,000 physicians who hold federal permits, or, relatively speaking, between 25 and 30 per cent. of the practicing physicians of the country.

VOTE BY SECTIONS OF THE UNITED STATES

	Whisky				Beer				Wine			
	Yes		No		Yes		No		Yes		No	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
North Atlantic States:												
Pennsylvania	1,414	55	1,138	45	611	24	1,890	76	817	32	1,706	68
New Jersey	520	63	308	37	273	33	550	67	354	43	460	57
New York	2,015	66	1,041	34	1,067	35	1,989	65	1,416	47	1,579	53
Connecticut	238	60	156	40	119	31	271	69	153	39	235	61
Rhode Island	96	60	65	40	55	35	104	65	65	41	95	59
Massachusetts	726	55	602	45	359	27	958	73	496	38	822	62
Vermont	79	52	74	48	27	18	124	82	46	31	103	69
New Hampshire	117	63	68	37	55	30	128	70	69	38	112	62
Maine	153	57	115	43	71	27	196	73	73	27	194	73
Total	5,358	60	3,567	40	2,637	30	6,200	70	3,489	40	5,306	60
South Atlantic States:												
Florida	132	49	138	51	72	27	192	73	84	32	180	68
Georgia	219	44	281	56	114	23	381	77	112	23	380	77
South Carolina	117	46	140	54	59	23	196	77	53	21	202	79
North Carolina	192	41	282	59	72	16	370	84	68	16	367	84
West Virginia	206	47	234	53	106	24	328	76	123	29	308	71
Virginia	270	57	202	43	112	24	357	76	124	27	340	73
District of Columbia	149	64	83	36	85	36	145	64	106	47	119	53
Maryland	310	62	190	38	154	32	334	68	216	44	276	56
Delaware	47	64	26	36	19	26	55	74	19	26	55	74
Total	1,631	51	1,556	49	791	25	2,358	75	905	29	2,227	71
North Central States:												
Kansas	280	39	448	61	150	20	580	80	165	23	563	77
Nebraska	272	48	291	52	165	30	394	70	162	29	391	71
South Dakota	80	40	120	60	44	22	157	78	49	25	150	75
North Dakota	92	48	98	52	49	26	141	74	56	29	134	71
Missouri	581	53	509	47	289	27	793	73	404	37	676	63
Iowa	476	48	522	52	220	22	775	78	242	24	751	76
Minnesota	332	41	474	59	176	22	626	78	174	22	618	78
Wisconsin	342	49	350	51	188	27	500	73	221	32	476	68
Michigan	470	46	554	54	247	24	780	76	273	27	739	73
Illinois	1,149	55	954	45	668	31	1,478	69	804	38	1,288	62
Indiana	362	38	598	62	187	20	765	80	211	22	740	78
Ohio	721	44	931	56	328	20	1,316	80	418	25	1,222	75
Total	5,160	47	5,858	53	2,711	25	8,262	75	3,179	29	7,548	71
South Central States:												
Oklahoma	196	36	351	64	117	21	431	79	117	22	423	78
Arkansas	150	43	196	57	73	21	268	79	91	27	252	73
Texas	491	41	697	59	266	23	905	77	315	27	867	73
Louisiana	199	53	178	47	109	29	266	71	146	39	231	61
Mississippi	133	42	182	58	70	22	242	78	68	22	240	78
Alabama	161	38	266	62	102	24	321	76	98	24	317	76
Tennessee	224	43	296	57	90	18	422	82	101	19	409	81
Kentucky	252	47	288	53	131	24	405	76	145	28	375	72
Total	1,806	42	2,454	58	958	23	3,260	77	1,079	26	3,114	74
Western States:												
California	749	50	756	50	365	24	1,125	76	560	38	930	62
Oregon	123	43	161	57	65	23	215	77	78	28	203	72
Washington	301	47	225	53	112	26	315	74	136	30	297	70
Idaho	70	44	90	56	38	24	120	76	46	29	113	71
Nevada	30	61	19	39	14	29	35	71	21	42	29	58
Utah	64	48	68	52	31	24	97	76	37	29	89	71
Arizona	55	51	53	49	29	26	81	74	37	34	73	66
New Mexico	56	43	76	57	24	18	110	82	37	28	96	72
Colorado	154	42	214	58	73	20	292	80	83	23	274	77
Wyoming	52	57	40	43	31	34	60	66	35	39	55	61
Montana	109	57	81	43	55	29	133	71	82	44	105	56
Total	1,663	48	1,783	52	837	24	2,583	76	1,151	34	2,253	66
Grand total	15,625	51	15,218	49	7,934	26	22,663	74	9,803	32	20,648	68

The present regulations limit the number of prescriptions to 100 in three months. In your opinion should there be any limit to the number of prescriptions for alcoholic liquors a physician may write? If yes, what should the limit be?

Of the 31,115 physicians who answered the questionnaire, *29,727*, or 95.5 per cent., expressed an opinion on this question. Of these, 16,831, or 57 per cent., favored restrictions of some kind, while 12,896, or 43 per cent., were against any restrictions. Those who favored restrictions but did not specify any particular limit numbered 4,789, or 16 per cent. The physicians who stated that they would restrict prescriptions absolutely, in other words, who were opposed to permitting medical men to prescribe alcoholic liquors in any form, numbered 3,656, or 12 per cent. Then there were 2,766 physicians, or 9 per cent., who would limit the number of prescriptions to from 1 to 50 in three months; 5,184, or 18 per cent., suggested limiting the prescriptions to from 51 to 100 in three months, and 436, or 2 per cent., expressed the opinion that physicians should be permitted to write more than 100 prescriptions in three months.

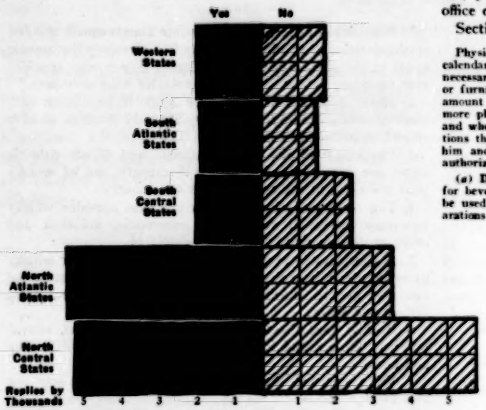
The figures just given are for the entire country. Separating the replies on the question into two groups, one composed of cities of 50,000 population or over, and the other, the balance of the country, we get the following facts: In the cities, 51 per cent. of the physicians were for restrictions of some sort, as compared with 60 per cent. in the rest of the country, while 49 per cent. of the city physicians were opposed to restrictions, as compared with 40 per cent. in the rest of the country. Of the physicians who were in favor of restrictions but would not specify any limit, 15 per cent. were in the cities and 17 per cent. in the remainder of the country. Those who would restrict prescribing absolutely comprised 7 per cent. in the cities, as compared with 15 per cent. in the rest of the country. There were 8 per cent. of the city physicians who would limit the number of prescriptions to from 1 to 50 in three months, while 10 per cent. of physicians in the remainder of the country took the same stand. Among the urban physicians, 19 per cent. would limit the number of prescriptions in three months to from 51 to 100, while 16 per cent. of the physicians in the remainder of the country gave the same limit. The percentage of physicians who expressed the opinion that more than 100 prescriptions should be permitted in three months was the same in the cities as in the rest of the country, that is, 2 per cent.

With the facts just stated in mind, it is interesting to note that while in the *total* cities (together with the rest of the country) there were 2 per cent. of physicians who favored more than 100 prescriptions in three months, *individual* cities varied in this respect. In the largest city in the country (New York), the physicians who favored more than 100 prescriptions in three months constituted 1.7 per cent., while the physicians of the third city (Philadelphia) constituted 1.4 per cent. on the same point. In both the second city (Chicago) and the fourth city (Detroit), 3.6 per cent. of the physicians favored more than 100 prescriptions in three months, while 3.5 per cent. of the physicians of both the seventh city (Boston) and the nineteenth city (Kansas City, Mo.) also voted for more than 100 prescriptions. It is also worth noting that not one of the physicians in the fifth city (Cleveland) favored more than 100 prescriptions, and the same is true of Newark, Cincinnati, Indianapolis, Jersey City, Rochester and Toledo, all cities of more than 240,000.

In your opinion should physicians be restricted in prescribing whisky, beer and wine?

On this question 17,266 physicians, or 58 per cent., stated that physicians should be restricted in prescribing alcoholic

liquors, and 12,561, or 42 per cent., stated that there should be no restrictions. Physicians of the rural districts were more inclined to favor restrictions than were those of the cities.



VOTE ON THERAPEUTIC NECESSITY OF WHISKY BY SECTIONS OF THE UNITED STATES.

If "yes," what restrictions should be made?

The forms of restriction suggested varied, but fell into several large groups. A large majority favor such restriction as is concerned under the Harrison Narcotic Law. Many favored further restriction in the number of prescriptions, and in the quantities prescribed. The great number believed that the present methods of regulation tended to violations which could be avoided by having the government take over the control of liquor traffic, selling alcoholic preparations only in sealed packages at a fixed price through government venders. From physicians living in border states came numerous favorable comments as to the Canadian laws of the provinces of Quebec and British Columbia. These laws are, however, temperance and not prohibition laws.

Comments

About one third of all of the physicians replying wrote comments on their questionnaires. These comments have been of great interest, and many have been published in the reports on the individual states, those selected typifying the large majority. The comments reveal a number of facts of great interest and importance. In practically every state, some physicians commented on the difficulty of obtaining alcohol for laboratory and office use, and it is clear that the regulations on this point are not thoroughly understood.

ALCOHOL FOR LABORATORY USE

A physician is entitled to two kinds of permits in reference to liquor and alcohol:

(*a*) Permits to prescribe (prefaced by the letter J).

(*b*) Permits to use (prefaced by the letter H).

It is evident, however, that the majority of the physicians who hold a "permit to prescribe" do not also hold a "permit to use." This most probably explains why so many commented on their inability to obtain grain alcohol for use in office and laboratory, either for compounding medicaments, or for sterilization and technical purposes. As far as the National Prohibition Law is concerned, little difficulty should be experienced in obtaining an adequate supply of pure alcohol, provided it is used for the foregoing purposes at the office or laboratory.

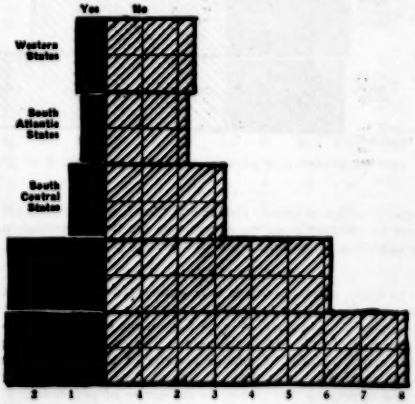
Section 71, Regulation 60, reads, in part as follows:

> Physicians may obtain not more than 6 quarts of liquor during any calendar year to be administered to their patients only in the quantities necessary to afford relief at the time of administering and may not sell or furnish the same to such persons or to any other persons. The total amount of spirituous liquor administered to any one patient, by one or more physicians, during any period of 10 days may not exceed 1 pint, and where such patient is also procuring spirituous liquor upon prescriptions through a retail pharmacist, the aggregate amount so procured by him and administered to him by a physician or physicians as herein authorized may not exceed such quantity.
>
> (*a*) Distilled spirits, wines, or the alcoholic preparations fit for use for beverage purposes authorized to be manufactured by section 60 may be used by physicians in the compounding of alcoholic medicinal preparations under the requirements of Article XI: Provided, however, That where such preparations are fit for use for beverage purposes according to the standards contained in section 60 the same may only be administered to patients in the same manner and subject to the same restrictions as other intoxicating liquor. *Alcohol may also be used by physicians in the course of their practice for other than internal use.*
>
> (*b*) On filing application for *permit to use* intoxicating liquor physicians should indicate the kind of liquor which they desire to use, the quantity, the exact manner in which and the purpose for which they desire to use the same. [*Italics ours.*]

Therefore, a physician desiring to use pure alcohol should proceed somewhat as follows: He should obtain from the Federal Prohibition Director of his state a *permit to use* alcohol, detailing specifically for what purposes the alcohol is desired; it may take some time to obtain this basic permit, but having once obtained it, it may be renewed easily each year. In general no bond will be required to accompany this type of application. To purchase alcohol, preferably a year's supply, the applicant files "Form 1410" (original and three copies); for instance, on the same form he may ask for:

(*a*) Six quarts of whisky for the period of one calendar year. (This liquor may be administered to patients for internal use.)

(*b*) Ten gallons of alcohol for laboratory and surgery. (If the physician declares need of alcohol for surgical purposes, as the sterilization of instruments, or gives evidence of necessity of considerable amount for laboratory use, he can obtain any commensurate quantity.)



VOTE ON THERAPEUTIC NECESSITY OF BEER BY SECTIONS OF THE UNITED STATES.

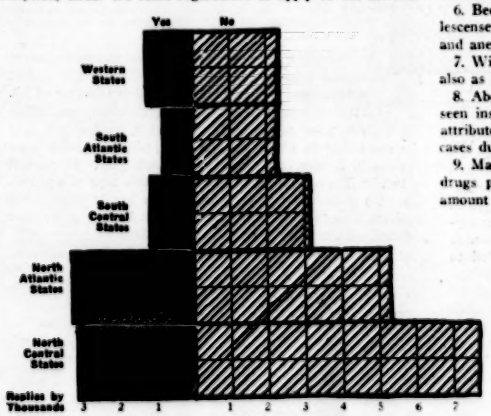
(c) Two gallons of alcohol for compounding. (The physician must declare he needs this, or some other quantity, for compounding medicines, rendered unfit for beverage purposes.)

The forms should also contain the name of the vender; if the consignment is to be shipped out of the city, the name of the express company empowered to transport it. These forms, duly filled out and accompanied by the permit, are sent to the state director, who in turn authorizes the vender to ship the consignment; the vender, where relatively large quantities of alcohol are to be purchased, must be one who holds a permit as a "Wholesale Dealer in Intoxicating Liquors"—not a retail pharmacist.

In laboratory practice, pure alcohol is often used needlessly in certain procedures in which *denatured alcohol*, as distinguished from medicated alcohol, could be substituted. Not only is denatured alcohol more easily obtainable, but it is considerably cheaper.

ALCOHOL FOR EXTERNAL APPLICATION

Pure grain alcohol for "rubbing" or "bathing," which is to be used at the patient's home, can be obtained only by prescription, under the same regulations as apply to the internal administration of liquor. On the other hand, *medicated* alcohol may be obtained from the druggist by the layman without a prescription, in quantities not exceeding 1 pint.



VOTE ON THERAPEUTIC NECESSITY OF WINE BY SECTIONS OF THE UNITED STATES.

STATE AND FEDERAL LAWS

In many states, physicians have commented on the fact that the state laws go far beyond federal laws in their severity. It is impossible, of course, to make suggestions as to the modifications of laws in individual states. The map accompanying this article reveals the relative severity of these laws. The problem of state, in contrast to federal, laws is one affecting every activity of life, as well as the matter of prohibition.

ILLICIT WHISKY AND DISTRIBUTION

In practically every community in the country, some physicians have stated that "moonshine" is freely available, and that it was unnecessary to write prescriptions in order for patients to secure beverages for medicinal or other purposes. Far more important from the medical point of view, however, was the fact that the great majority of physicians objected to being made the main factors in the distribution of alcohol. Thousands stated that they did not wish to be the "goats" for the government in controlling this problem, nor did they wish to serve as saloonkeepers or bartenders.

Summary

1. Physicians of the United States are almost equally divided on the question as to whether whisky is a necessary therapeutic agent in the practice of medicine; about 26 per cent. consider beer necessary; about 22 per cent. consider wine necessary.

2. More physicians of cities over 50,000 in population consider alcoholic beverages necessary than do those in smaller cities and in rural communities.

3. Physicians of the North Atlantic and South Atlantic states are more favorable to the therapeutic use of whisky than are those in the remainder of the country.

4. The large majority of physicians who consider whisky necessary believe it valuable in pneumonia, influenza and other acute infectious diseases.

5. A considerable proportion of those who consider whisky of value utilize it in the treatment of diseases incident to old age and general debility, in convalescence, diabetes, heart failure and shock.

6. Beer is used therapeutically chiefly in lactation, convalescense, old age, and for the treatment of debility, dyspepsia and anemia.

7. Wine is used chiefly for the same conditions as is beer, but also as a substitute for whisky.

8. About one fourth of the physicians stated that they had seen instances of unnecessary suffering or death which they attributed to the enforcement of prohibition laws, including cases due to whisky of illicit manufacture or of poor quality.

9. Many physicians are against restriction in either the drugs prescribed, in the number of prescriptions or in the amount of drugs prescribed.

10. Only 2 per cent. of the physicians replying believed that physicians should be permitted to write more than 100 prescriptions in three months.

11. Many physicians say that limitation of the number of prescriptions does not provide for epidemics and encourages the use of the limit by many.

12. Many physicians say that limitation to a definite minimum quantity of alcoholic beverages over certain periods is a serious interference with treatment of conditions in which greater quantities are required.

13. A large majority of physicians believe that some regulation or restriction should be placed on the prescribing of alcoholic liquors.

14. A large number of physicians favor such regulations as are under the Harrison Narcotic Law.

15. The experience of physicians indicates that certain state laws are too stringent relative to the provision of pure alcohol for laboratory and surgical purposes.

16. Many physicians have not informed themselves as to their privileges under the present regulations relative to the securing of pure alcohol or of whisky for office use.

17. The lack of uniformity in state and federal laws complicates the formulation of methods for adequately solving the problem of the medicinal supply of alcoholic liquors.

18. Physicians through their practice have observed extensive violations of the present prohibition regulations in their communities.

19. The majority of physicians would welcome a change in prohibition regulations which would take from them the burden of distribution of alcoholic liquors.

20. Many physicians believe that the provision of whisky and alcohol for medicinal purposes by the government in sealed packages at a fixed price with control of prescriptions similar to that of the Harrison Narcotic Law will solve the problem of relation of physicians to the enforcement of prohibition.

RESULTS BY STATES

REPORT ON RESULTS IN FIFTEEN STATES NOT PREVIOUSLY PUBLISHED

(*Continued from page 139*)

On December 24, THE JOURNAL published the results of the referendum on the use of alcohol in the practice of medicine in Illinois and Indiana. On December 31 appeared the reports on Idaho, Kansas, Maine, Mississippi, Nebraska and Rhode Island. On January 7 results were given for eleven states, viz.: Arizona, Colorado, Connecticut, Delaware, Georgia, Iowa, Michigan, Montana, North Dakota, Ohio and Pennsylvania. Last week results were given for fourteen states, viz.: Alabama, Arkansas, California, Florida, Kentucky, Louisiana, Maryland, Minnesota, Missouri, Nevada, New Hampshire, New Mexico, New York and Wisconsin, and the District of Columbia. Following are the states not previously reported. Under "Comments," in each state, are printed selections from some of the replies; lack of space prevents giving more than a few of these comments.

MASSACHUSETTS

Federal prohibition became effective in Massachusetts, July 1, 1919. There are no state restrictions regarding the prescribing of alcoholic liquors.

RESULTS IN MASSACHUSETTS

MASSACHUSETTS	Boston	Worcester	Springfield	Cambridge	Fall River	Lynn	New Bedford	Lowell	Somerville	Lawrence	Brockton	Holyoke	Haverhill	Total Cities	Rural	Grand Total
Number of physicians	2,695	276	222	199	140	123	128	129	101	100	85	77	74	2,730	2,229	5,959
Questionnaires sent	1,103	99	69	77	41	41	38	28	25	26	21	29	30	1,605	737	2,405
Questionnaires returned	452	61	46	41	24	30	23	24	19	15	19	21	21	796	547	1,343
Percentage of returns	41	62	67	53	59	73	61	63	54	29	61	72	70	48	74	56
General practitioners	294	42	25	33	16	27	15	18	14	11	15	15	18	533	666	1,019
Surgeons	97	6	6	4	5	2	3	2	3	1	2	5	1	174	81	255
Specialists	76	13	5	4	3	1	5	3	2	3	1	1	2	119	50	169
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?																
Yes	250	33	26	27	12	16	16	13	13	10	11	15	9	451	275	726
No	195	28	20	14	12	14	7	11	6	5	8	6	12	338	264	602
Do your regard beer as a necessary therapeutic agent in the practice of medicine																
Yes	124	14	11	10	10	6	9	8	8	7	6	6	6	225	134	359
No	319	45	35	29	14	24	14	16	11	8	13	14	15	557	401	958
Do you regard wine as a necessary therapeutic agent in the practice of medicine?																
Yes	185	19	17	22	11	8	12	10	7	6	7	13	7	324	172	496
No	258	41	29	19	13	22	11	14	10	8	11	8	14	458	364	822
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?																
Yes	71	8	9	7	6	2	6	7	2	4	5	6	2	127	81	208
No	383	52	37	32	18	27	14	17	15	10	14	13	17	629	443	1,072
How many times have you found it advisable to prescribe these liquors in a month?																
Whisky: Number of physicians stating times advisable	178	23	21	21	10	10	11	13	10	9	9	10	6	331	218	549
Number of physicians stating no times advisable	131	20	9	6	6	10	5	3	4	3	2	2	7	209	165	374
Beer: Number of physicians stating times advisable	19	3	1	5	2	1	4	3	..	3	2	2	2	47	27	74
Number of physicians stating no times advisable	268	38	24	22	12	16	12	10	13	8	9	9	11	452	340	792
Wine: Number of physicians stating times advisable	68	8	16	16	6	2	7	8	4	7	3	6	2	184	102	286
Number of physicians stating no times advisable	190	31	12	11	9	14	9	5	9	3	7	5	11	316	264	582
Do you hold a federal permit?																
Yes	224	22	24	24	13	17	12	11	11	11	14	11	10	407	253	660
No	171	25	16	12	9	10	9	10	6	3	5	3	8	287	217	504
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?																
Yes (limit not specified)	70	9	12	5	5	7	6	6	8	2	2	1	4	135	102	221
Restricted absolutely	25	2	..	3	..	1	..	..	1	1	1	1	1	36	17	53
1 to 50 prescriptions	60	4	3	1	1	2	2	..	..	1	1	2	2	79	34	93
51 to 100 prescriptions	97	10	8	14	6	5	4	7	4	6	6	1	3	174	125	299
More than 100 prescriptions	15	..	1	2	..	4	4	3	..	..	..	..	..	30	12	41
Total	267	25	24	25	12	19	14	14	8	10	10	5	10	456	291	717
No restriction	205	25	17	15	11	11	9	10	9	5	8	15	11	351	232	583
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?																
Yes	309	33	22	20	11	18	11	10	10	8	10	6	12	380	285	665
No	215	25	18	18	12	11	12	14	8	6	9	15	9	372	259	630

Questionnaires were sent to 2,405 physicians in Massachusetts, and 1,343, or 56 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Boston, yes, 250; no, 195; Worcester, yes, 33; no, 28; Springfield, yes, 26; no, 20; Cambridge, yes, 27; no, 14; Fall River, yes, 12; no, 12; Lynn, yes, 16; no, 14; New Bedford, yes, 16; no, 7; Lowell, yes, 13; no, 11; Somerville, yes, 13; no, 6; Lawrence, yes, 10; no, 5; Brockton, yes, 11; no, 8; Holyoke, yes, 15; no, 6; Haverhill, yes, 9; no, 12. Total for the cities, yes, 451; no, 338; for the rural districts, yes, 275; no, 264; for the state, yes, 726; no, 602.

On the question "Is beer a necessary therapeutic agent?" the vote was: Boston, yes, 124; no, 319; Worcester, yes, 14;

no, 45; Springfield, yes, 11; no, 35; Cambridge, yes, 10; no, 29; Fall River, yes, 10; no, 14; Lynn, yes, 6; no, 24; New Bedford, yes, 9; no, 14; Lowell, yes, 8; no, 16; Somerville, yes, 8; no, 11; Lawrence, yes, 7; no, 8; Brockton, yes, 6; no, 13; Holyoke, yes, 6; no, 14; Haverhill, yes, 6; no, 15. Total for the cities, yes, 225; no, 557; for the rural districts, yes, 134; no, 401; for the state, yes, 359; no, 958.

On the question "Is wine a necessary therapeutic agent?" the vote was: Boston, yes, 185; no, 258; Worcester, yes, 19; no, 41; Springfield, yes, 17; no, 29; Cambridge, yes, 22; no, 19; Fall River, yes, 11; no, 13; Lynn, yes, 8; no, 22; New Bedford, yes, 12; no, 11; Lowell, yes, 10; no, 14; Somerville, yes, 7; no, 10; Lawrence, yes, 6; no, 8; Brockton, yes, 7; no. 11; Holyoke, yes, 13; no, 8; Haverhill, yes, 7; no, 14. Total for the cities, yes, 324; no, 458; for the rural districts, yes, 172; no, 364; for the state, yes, 496; no, 822.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 218; no, 1,072.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 549 had found it advisable to prescribe whisky, and 374 had not found it advisable; 74 had found it advisable to prescribe beer, and 792 had not found it advisable; 286 had found it advisable to prescribe wine, and 582 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 660; no, 504.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 717 stated that they should be restricted, and 583 did not believe such restrictions necessary; 231 physicians answered yes, but did not specify a limit; 53 stated that the number should be limited to absolutely none; 93 considered from 1 to 50 prescriptions in three months sufficient; 299 considered from 51 to 100 satisfactory, and 41 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was, yes, 665; no, 600.

COMMENTS

Would it not put the thing on a better basis if one physician, for instance the town physician in a place of this size, were the only one to have the permit and that he be forbidden to make a charge, but be paid a small salary by the community or by the federal government? Then any patient of mine who needed it could get it on an order from me and the others could be referred to him for decision. He, not being the family physician, would not be expected to favor the patient and would lose nothing by his refusal.—*Winchester.*

It seems to me that the prohibition law has no effect on my therapeutic treatment of patients. I formerly gave milk punches to patients suffering from exhaustion, but I find that in the great majority of instances the punch can be left out without harm. In only one case, and that in an elderly woman following a severe attack of influenza, have I used distilled liquor. On the contrary, I would not limit the number of prescriptions that a physician might issue. Just how the misuse of this right is to be prevented I am not prepared to say.—*Brookline.*

I find that my patients are able somehow to procure pure alcohol at nominal price, and liquors of all kinds at all times.—*Boston.*

Except in serious disease, alcohol is frequently prescribed at the request of the patient. This fact cannot be denied; it is contrary to principle, it places the man who acquiesces in the class with the rum seller, and it justifies the following conclusion: It is difficult if not impossible honestly to prescribe intoxicating liquors without personal harm resulting through refusal to issue prescriptions when not indicated, for the average layman will not accept an explanation if proffered, and will in many instances take affront. His sympathy is not with the law, and he does not appreciate any attempt to comply with it. Morphinism, in my opinion, is a far worse habit than alcoholism, yet the government regulations concerning the prescribing of morphin are far less rigid than those dealing with alcohol.—*Dorchester.*

The government should purchase all wine and liquor in the country. Druggists only should retail the goods on prescription. The price should be fixed, allowing a stated percentage to the druggist. A simple prescription from any regular registered physician should be all the order necessary. The doctor should be allowed to trade or direct his patients to but one druggist in his district, and that the nearest to his establishment. The druggist should record and file the prescriptions of each doctor separately and keep them in form so that an inspector employed by the government could easily and with the least amount of time and trouble make a semiannual examination and report. Any illegal or abusive prescribing should be punished by fine and removal of privilege. —*Cambridge.*

The law is a handicap to a conscientious physician. A large number of patients will go to the physician whose conscience is elastic.—*Worcester.*

NORTH CAROLINA

The state prohibition law was adopted by direct vote, May 26, 1908, and went into effect, Jan. 1, 1909. Physicians may secure permits from the clerk of the county court to purchase grain alcohol for surgical and scientific purposes. There are no provisions for prescribing either alcohol or alcoholic liquors.

Questionnaires were sent to 885 physicians in North Carolina, and 445, or 50 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: yes, 182; no, 262.

On the question "Is beer a necessary therapeutic agent?" the vote was: yes, 72; no, 370.

On the question "Is wine a necessary therapeutic agent?" the vote was: yes, 68; no, 367.

On the question whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 83; no, 345.

RESULTS IN NORTH CAROLINA

Number of physicians	2,236
Questionnaires sent	885
Questionnaires returned	445
Percentage of returns	50
General practitioners	370
Surgeons	25
Specialists	50
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?	
Yes	182
No	262
Do you regard beer as a necessary therapeutic agent in the practice of medicine?	
Yes	72
No	370
Do you regard wine as a necessary therapeutic agent in the practice of medicine?	
Yes	68
No	367
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?	
Yes	83
No	345
How many times have you found it advisable to prescribe these liquors in a month?	
Whisky: Number of physicians stating times advisable	108
Number of physicians stating no times advisable	223
Beer: Number of physicians stating times advisable	31
Number of physicians stating no times advisable	286
Wine: Number of physicians stating times advisable	20
Number of physicians stating no times advisable	293
Do you hold a federal permit?	
Yes	13
No	175
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?	
Yes (limit not specified)	66
Restricted absolutely	79
1 to 50 prescriptions	36
51 to 100 prescriptions	49
More than 100 prescriptions	7
Total	237
No restriction	185
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?	
Yes	277
No	151

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 108 had found it advisable to prescribe whisky, and 223 had not found it advisable; 31 had found it advisable to prescribe beer, and 286 had not found it advisable; 20 had found it advisable to prescribe wine, and 293 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were, yes, 13; no, 175.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 237 stated that they should be restricted, and 185 did not believe such restrictions necessary; 66 physicians answered yes, but did not specify a limit; 79 stated that the number should be limited to absolutely none; 36 considered from 1 to 50 prescriptions in three months sufficient; 49 considered from 51 to 100 satisfactory, and 7 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 279; no, 151.

COMMENTS

I am a teetotaler, and did not prescribe whisky oftener than three to six times a year before the days of the prohibition amendment; but I do not believe that physicians should be restricted in the use of any remedy that is indicative in the relief of suffering or the preservation of life.—*Dare County.*

There should not be occasion for restriction. Alcohol has its proper place and use, chiefly in the aged. The medical profession should be able to exercise a decent conscient in this as it has always done in other things.—*Wilmington.*

I would like to be able to get some pure alcohol without so much red tape or poison ingredients.—*Watauga County.*

I do not regard whisky as absolutely necessary, but I would often give it as a food and quick stimulant in cases of pneumonia and influenza if I had it at hand. The family can give it when there is no physician or nurse to give strychnin, and you can often get these patients to take more nourishment by giving whisky.—*High Point.*

I feel as if the physician is being hampered in his work by being limited in the prescribing of alcoholic liquors when by his scientific knowledge he knows he is being led around by laws probably being made without regard to the medical profession.—*Alamance County.*

Trenton, yes, 14; no, 14; Camden, yes, 20; no, 6; East Orange, yes, 10; no, 9; Elizabeth, yes, 17; no, 6; Passaic, yes, 10; no, 5; Hoboken, yes, 10; no, 5; Bayonne, yes, 9; no, 1. Total for the cities, yes, 239; no, 111; for the rural districts, yes, 281; no, 197; for the state, yes, 520; no, 308.

On the question "Is beer a necessary therapeutic agent?" the vote was: Newark, yes, 39; no, 71; Jersey City, yes, 24; no, 20; Atlantic City, yes, 10; no, 22; Paterson, yes, 7; no, 21; Trenton, yes, 6; no, 22; Camden, yes, 8; no, 18; East Orange, yes, 5 no, 14; Elizabeth, yes, 14; no, 9; Passaic, yes, 7; no, 8; Hoboken, yes, 5; no, 10; Bayonne, yes, 2; no, 8. Total for the cities, yes, 127; no, 223; for the rural districts, yes, 146; no, 327; for the state, yes, 273; no, 550.

On the question "Is wine a necessary therapeutic agent?" the vote was: Newark, yes, 51; no, 59; Jersey City, yes, 28; no, 16; Atlantic City, yes, 15; no, 16; Paterson, yes, 10; no, 17; Trenton, yes, 11; no, 16; Camden, yes, 11; no, 15; East Orange, yes, 11; no, 8; Elizabeth, yes, 13; no, 9; Passaic,

RESULTS IN NEW JERSEY

NEW JERSEY	Newark	Jersey City	Atlantic City	Paterson	Trenton	Camden	East Orange	Elizabeth	Passaic	Hoboken	Bayonne	Total Cities	Rural	Grand Total
Number of physicians	535	220	151	148	139	125	86	74	71	62	52	1,606	1,544	3,150
Questionnaires sent	195	85	56	52	56	38	33	36	29	29	21	640	864	1,504
Questionnaires returned	112	44	33	28	28	26	19	23	15	15	10	353	484	837
Percentage of returns	57	48	59	54	50	68	58	64	52	52	48	55	56	56
General practitioners	86	39	25	19	22	19	19	20	12	13	10	284	436	720
Surgeons	9	5	3	7	4	4	..	2	..	2	..	36	14	50
Specialists	17	..	5	2	2	3	..	1	3	..	..	33	34	67
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?														
Yes	79	35	20	15	14	20	10	17	10	10	9	239	281	520
No	32	9	11	13	14	6	9	6	5	5	1	111	197	308
Do you regard beer as a necessary therapeutic agent in the practice of medicine?														
Yes	39	24	10	7	6	8	5	14	7	5	2	127	146	273
No	71	20	22	21	22	18	14	9	8	10	8	223	327	550
Do you regard wine as a necessary therapeutic agent in the practice of medicine?														
Yes	51	28	15	10	11	11	11	13	9	7	5	171	183	354
No	59	16	16	17	16	15	8	9	6	7	5	174	286	460
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?														
Yes	19	17	9	5	2	6	3	5	5	3	2	76	105	181
No	86	25	24	21	25	20	16	18	10	12	8	265	356	621
How many times have you found it advisable to prescribe these liquors in a month?														
Whisky: Number of physicians stating times advisable	53	21	17	11	14	12	9	9	8	8	8	170	191	361
Number of physicians stating no times advisable	30	13	11	12	11	8	8	9	6	5	2	115	188	303
Beer: Number of physicians stating times advisable	14	7	1	4	3	2	1	3	3	3	..	41	35	76
Number of physicians stating no times advisable	54	22	22	17	17	15	14	12	7	8	5	193	277	470
Wine: Number of physicians stating times advisable	22	12	5	4	6	2	3	6	4	5	4	74	71	145
Number of physicians stating no times advisable	49	18	19	17	14	15	11	10	6	6	2	167	258	425
Do you hold a federal permit?														
Yes	61	14	20	15	10	14	11	10	7	10	5	177	180	357
No	38	22	10	12	13	8	7	11	7	5	3	136	229	365
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?														
Yes (limit not specified)	13	8	4	5	3	7	..	1	3	2	1	47	58	105
Restricted absolutely	7	2	2	..	4	..	..	..	1	..	..	16	25	41
1 to 50 prescriptions	2	2	..	2	1	..	3	..	1	1	..	17	24	41
51 to 100 prescriptions	10	2	9	4	5	3	1	2	1	2	3	51	93	144
More than 100 prescriptions	..	..	..	..	..	..	..	..	..	..	..	..	4	4
Total	41	14	15	11	13	10	9	3	6	5	4	131	204	335
No restriction	68	29	18	16	13	16	9	18	9	9	6	209	266	475
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?														
Yes	45	13	13	12	12	8	10	2	5	5	3	128	191	319
No	65	28	18	15	14	17	9	19	10	10	7	212	278	490

NEW JERSEY

Federal prohibition became effective, July 1, 1919. Prior to that time the state had been under a license system. The law of 1921 provides that physicians in active practice and holding permits from the federal government may, on having the permits countersigned by the county clerk, prescribe liquor for medicinal purposes in compliance with the federal law.

Questionnaires were sent to 1,504 physicians in New Jersey, and 837, or 56 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Newark, yes, 79; no, 32; Jersey City, yes, 35; no, 9; Atlantic City, yes, 20; no, 11; Paterson, yes, 15; no, 13; yes, 9; no, 6; Hoboken, yes, 7; no, 7; Bayonne, yes, 5; no, 5. Total for the cities, yes, 171; no, 174; for the rural districts, yes, 183; no, 286; for the state, yes, 354; no, 460.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 181; no, 621.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors, 361 had found it advisable to prescribe whisky, and 303 had not found it advisable; 76 had found it advisable to prescribe beer, and 470 had not found it advisable; 145 had found it advisable to prescribe wine, and 425 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 357; no, 365.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 335 stated that they should be restricted, and 475 did not believe such restrictions necessary; 105 physicians answered yes, but did not specify a limit; 41 stated that the number should be limited to absolutely none; 41 considered from 1 to 50 prescriptions in three months sufficient; 144 considered from 51 to 100 satisfactory, and 4 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 319; no, 490.

COMMENTS

This is no exaggeration: Many beer drinkers who have not succeeded in making an acceptable home brew are suffering either from intestinal disturbances due to the effect of the poor home brew, or, when they have given up beer altogether, from the effect of the withdrawal of an article of diet to which they have been accustomed for years. On the other hand, many do not bother about home brewing and turn to distilled liquors, which are getting poorer and poorer in quality as prohibition causes the disappearance of the old stock. Many of my friends who formerly would not touch whisky except in an emergency are now regular whisky drinkers. On the train from New York to Buffalo, conversation in the smoking room centered entirely around home brewing and distilling and the quality of drinks and where you could get them, until bedtime. In my specialty I have less occasion to prescribe alcoholics than I did while in general practice. Every New Year's day St. Mary's Hospital in Passaic received from me a gift of from 2 to 5 gallons of whisky because I used it so extensively, i. e., until I gave up general practice. There should be no restriction whatever on anything the physician wishes to prescribe to his patients. Prohibition is a serious disease of the body politic which should be treated as rationally as any other affliction.—*Passaic.*

I have been in practice forty-five years. During all that time I have seen the profession change in its attitude toward alcohol, and feel myself that there is no diseased condition but what can be as well treated without it as with it. The physician who likes his "toddy" likes to give it. The man who does not care for it can treat efficiently without it. —*Jersey City.*

I have written eighty-nine prescriptions for whisky from March 20, 1920, to date. The average whisky obtained on prescription seems inferior to what may be obtained without prescription, and the majority of my patients who have occasion to need liquor have it or obtain it without prescription.—*Bergen County.*

OKLAHOMA

The state constitutional amendment went into effect, Nov. 16, 1907. The law of 1911, amended in 1913, permits the prescribing of grain alcohol for medicinal purposes. There are no provisions for the prescribing of alcoholic liquors.

Questionnaires were sent to 920 physicians in Oklahoma, and 553, or 60 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Oklahoma City, yes, 15; no, 33; Tulsa, yes, 11; no, 30. Total for the cities, yes, 26; no, 63; for the rural districts, yes, 170; no, 288; for the state, yes, 196; no, 351.

On the question "Is beer a necessary therapeutic agent?" the vote was: Oklahoma City, yes, 7; no, 39; Tulsa, yes, 6; no, 35. Total for the cities, yes, 13; no, 74; for the rural districts, yes, 104; no, 357; for the state, yes, 117; no, 431.

On the question "Is wine a necessary therapeutic agent?" the vote was: Oklahoma City, yes, 9; no, 36; Tulsa, yes, 6; no, 34. Total for the cities, yes, 15; no, 70; for the rural districts, yes, 102; no, 353; for the state, yes, 117; no, 423.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 116; no, 419.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 102 had found it advisable to prescribe whisky, and 315 had not found it advisable; 54 had found it advisable to prescribe beer, and 337 had not found it advisable; 50 had found it advisable to prescribe wine, and 334 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 17; no, 182.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 349 stated that they should be restricted, and 176 did not believe such restrictions necessary; 99 answered yes, but did not specify a limit; 136 stated that the number should be limited to absolutely none; 53 considered from 1 to 50 prescriptions in three months sufficient; 55 considered from 51

RESULTS IN OKLAHOMA

OKLAHOMA	Oklahoma City	Tulsa	Total Cities	Rural	Grand Total
Number of physicians	234	162	396	2,226	2,622
Questionnaires sent	82	65	147	773	920
Questionnaires returned	49	41	90	463	553
Percentage of returns	60	63	61	60	60
General practitioners	32	21	53	424	477
Surgeons	9	13	22	20	42
Specialists	8	7	15	19	34
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?					
Yes	15	11	26	170	196
No	33	30	63	288	351
Do you regard beer as a necessary therapeutic agent in the practice of medicine?					
Yes	7	6	13	104	117
No	39	35	74	357	431
Do you regard wine as a necessary therapeutic agent in the practice of medicine?					
Yes	9	6	15	102	117
No	36	34	70	353	423
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?					
Yes	8	9	17	99	116
No	39	32	71	348	419
How many times have you found it advisable to prescribe these liquors in a month?					
Whisky: Number of physicians stating times advisable	3	10	13	89	102
Number of physicians stating no times advisable	32	23	55	260	315
Beer: Number of physicians stating times advisable	1	2	3	51	54
Number of physicians stating no times advisable	32	29	61	276	337
Wine: Number of physicians stating times advisable	3	2	5	45	50
Number of physicians stating no times advisable	31	29	60	274	334
Do you hold a federal permit?					
Yes	..	2	2	15	17
No	10	11	21	161	182
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?					
Yes (limit not specified)	11	13	24	75	99
Restricted absolutely	10	5	15	121	136
1 to 50 prescriptions	3	3	6	47	53
51 to 100 prescriptions	4	5	9	46	55
More than 100 prescriptions	..	1	1	5	6
Total	28	27	55	294	349
No restriction	15	11	26	150	176
In your opinion, should physicians be restricted in prescribing whisky beer and wine?					
Yes	34	25	59	301	360
No	8	13	21	146	167

to 100 prescriptions satisfactory, and 6 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 360; no, 167.

COMMENTS

I am against the present form of making physicians be the goat in the prescribing of liquor, and would not take out a license if the state law was such that I could. I will make the statement that if it is impossible to get any liquor in the future, we should get a substitute for alcohol. I believe that the present restriction of alcohol is causing more deaths directly than was the case before we had the present law; in the future, however, there will be fewer deaths when the government goes a little further and restricts the making and selling of any kind of alcohol except under strict government supervision.—*Snyder.*

I have a general practice of from $12,000 to $18,000 a year. There is not a day but what I would use whisky or alcohol in my practice if I had it. Last week one of my patients drove 250 miles for one-half pint of alcohol; his little baby was dying from malnutrition. I gave 10 drops of alcohol in egg-nog every two or three hours. The baby at this time is improving, with no other medication. I might say that this child had been unable to retain food of any description for ten days previous.—*Garfield County.*

I spent four years in a medical school that was chartered by the state, to teach men how and what to prescribe to the sick, and they granted me a certificate setting forth the fact that I was competent to so prescribe. I then went before a board of examiners appointed by the governor of the state and received authority from them to so prescribe in this state, and I have exercised that authority for some twenty years. And now come a few farmers, lawyers, politicians, and the like, who are not presumed to know anything about disease expression or drug action, and yet who have the audacity to say to the medical profession of this country that they can't prescribe this or that, or if they do they can write only a definite number of prescriptions. My opinion would not look good in print, so I will not attempt to express myself further.—*Hooker.*

OREGON

The state prohibition law went into effect, Jan. 1, 1916. This law was amended in 1917. Under it physicians may prescribe grain alcohol only. Such prescriptions must be dated and must be numbered consecutively. They must show the ailment for which prescribed, the name and address of the physician and the patient, and must be written in duplicate. Carbon copies must be filed each month with the county clerk.

Questionnaires were sent to 478 physicians in Oregon, and 282, or 59 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Portland, yes, 41; no, 58; for the rural districts, yes, 80; no, 103; for the state, yes, 121; no, 161.

On the question "Is beer a necessary therapeutic agent?" the vote was: Portland, yes, 21; no, 76; for the rural districts, yes, 44; no, 139; for the state, yes, 65; no, 215.

On the question "Is wine a necessary therapeutic agent?" the vote was: Portland, yes, 25; no, 74; for the rural districts, yes, 53; no, 129; for the state, yes, 78; no, 203.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 74; no, 199.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 63 had found it advisable to prescribe whisky, and 145 had not found it advisable; 26 had found it advisable to prescribe beer, and 164 had not found it advisable; 33 had found it advisable to prescribe wine, and 162 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 9; no, 56.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 182 stated that they should be restricted, and 87 did not believe such restrictions necessary; 54 physicians answered yes, but did not specify a limit; 52 stated that the number should be restricted to absolutely none; 39 considered from 1 to 50 prescriptions in three months sufficient; 34 considered from 51 to 100 satisfactory, and 3 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 193; no, 84.

COMMENTS

I think it would be infinitely better that the federal government handle the liquor and allow each family their monthly quota and not intrust same to the physicians.—*Portland.*

I should rather get along without liquor in my practice than to be bothered with "well" patients who want liquor. However, I do not endorse prohibition and think a conscientious physician should be able to prescribe liquor to his patients *ad lib.* if they really need it.—*Portland.*

The same restriction should be applied in my opinion as is in the prescribing of morphin, etc.—*Portland.*

There should be no restrictions on the right of the physician to prescribe what, in his judgment, is for the best interest of his patient. Those few who will prostitute their profession for the sake of gain or even goodfellowship should be read out of the profession or punished sufficiently to hold them in line. I believe that alcoholic stimulation is called for in the legitimate practice of medicine at least as often as morphin is, and the matter should be handled much in the same manner as the opium question is handled by the Harrison act. I realize that there are some unprincipled men in the profession who must be restrained in some manner.—*Eugene.*

I live in a "dry" state, and so have had no opportunity to prescribe alcoholic liquors, even had I wished to do so; however, I am not conscious of any lack of efficient therapeutic agents, by reason of Oregon's dryness. In my opinion, the only need for alcohol is when a rapidly diffusible stimulant is called for, and even then I believe every indication can be met by a suitable hypodermic injection.—*Medford.*

RESULTS IN OREGON

OREGON	Portland	Rural	Grand Total
Number of physicians	330	615	1,145
Questionnaires sent	152	326	478
Questionnaires returned	99	183	282
Percentage of returns	65	56	59
General practitioners	71	166	237
Surgeons	11	8	19
Specialists	17	9	26
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?			
Yes	41	80	121
No	58	103	161
Do you regard beer as a necessary therapeutic agent in the practice of medicine?			
Yes	21	44	65
No	76	139	215
Do you regard wine as a necessary therapeutic agent in the practice of medicine?			
Yes	25	53	78
No	74	129	203
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?			
Yes	22	52	74
No	72	127	199
How many times have you found it advisable to prescribe these liquors in a month?			
Whisky: Number of physicians stating times advisable	20	43	63
Number of physicians stating no times advisable	52	93	145
Beer: Number of physicians stating times advisable	10	16	26
Number of physicians stating no times advisable	56	108	164
Wine: Number of physicians stating times advisable	8	25	33
Number of physicians stating no times advisable	57	105	162
Do you hold a federal permit?			
Yes	4	5	9
No	30	26	56
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write:			
Yes (limit not specified)	22	32	54
Restricted absolutely	23	29	52
1 to 50 prescriptions	10	29	39
51 to 100 prescriptions	9	25	34
More than 100 prescriptions	1	2	3
Total	65	117	182
No restriction	27	60	87
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?			
Yes	69	124	193
No	27	57	84

SOUTH CAROLINA

The state prohibition law became effective, Jan. 1, 1916. Legally qualified physicians may prescribe pure alcohol in a quantity not to exceed one-half pint. Such prescriptions can be made only after an actual physical examination of the patient and in cases of absolute necessity.

Questionnaires were sent to 508 physicians in South Carolina, and 259, or 51 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Charleston, yes, 9; no, 5; for the rural districts, yes, 108; no, 135; for the state, yes, 117; no, 140.

On the question "Is beer a necessary therapeutic agent?" the vote was: Charleston, yes, 6; no, 8; for the rural districts, yes, 53; no, 188; for the state, yes, 59; no, 196.

On the question "Is wine a necessary therapeutic agent?" the vote was: Charleston, yes, 1; no, 13; for the rural districts, yes, 52; no, 189; for the state, yes, 53; no, 202.

On the question as to whether physicians had witnessed unnecessary suffering or death from the enforcement of the prohibition laws, the replies were: yes, 54; no, 198.

RESULTS IN SOUTH CAROLINA

SOUTH CAROLINA	Charleston	Rural	Grand Total
Number of physicians	125	1,327	1,452
Questionnaires sent	41	467	508
Questionnaires returned	14	245	259
Percentage of returns	34	52	51
General practitioners	10	219	229
Surgeons	2	11	13
Specialists	2	15	17
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?			
Yes	9	108	117
No	5	135	140
Do you regard beer as a necessary therapeutic agent in the practice of medicine?			
Yes	6	53	59
No	8	198	196
Do you regard wine as a necessary therapeutic agent in the practice of medicine?			
Yes	1	52	53
No	13	189	202
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?			
Yes	4	50	54
No	10	188	198
How many times have you found it advisable to prescribe these liquors in a month?			
Whisky: Number of physicians stating times advisable	6	49	55
Number of physicians stating no times advisable	3	135	138
Beer: Number of physicians stating times advisable	2	13	15
Number of physicians stating no times advisable	5	149	154
Wine: Number of physicians stating times advisable	1	11	12
Number of physicians stating no times advisable	7	149	156
Do you hold a federal permit?			
Yes	..	9	9
No	6	142	148
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?			
Yes (limit not specified)	3	49	52
Restricted absolutely	2	50	52
1 to 50 prescriptions	..	12	12
51 to 100 prescriptions	..	27	27
More than 100 prescriptions	..	3	3
Total	5	141	146
No restriction	8	90	98
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?			
Yes	4	163	167
No	9	76	85

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 55 had found it advisable to prescribe whisky, and 138 had not found it advisable; 15 had found it advisable to prescribe beer, and 154 had not found it advisable; 12 had found it advisable to prescribe wine, and 156 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 9; no, 148.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 146 stated that they should be restricted, and 98 did not believe such restrictions necessary; 52 physicians answered yes, but did not specify a limit; 52 stated that the number should be limited to absolutely none; 12 considered from 1 to 50 prescriptions in three months sufficient; 27 considered from 51 to 100 satisfactory, and 3 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 167; no, 85.

COMMENTS

I think most assuredly there should be a limit: a quart of whisky or brandy a month to any patient. I think it might be a wise expedient to have the law provide that in certain cases of illness a certain quantity of whisky or brandy per month be prescribed for each case, and let that prescription be filled by the state health officer's department or by some one drug store in a certain area about the same as is done by the state of South Carolina for the free distribution of diphtheria antitoxin, with a full record of each case. Let the state furnish it at cost and neither the doctor nor anybody else make any money out of it, and the value of the remedy will at once go down.—*Georgetown.*

The careless use of this drug by physicians gives the laity the idea that it is a useful one, thereby perpetuating an ancient error.—*Greenville.*

I have been practicing medicine for nearly thirty years and I am fully satisfied and convinced that in treating pneumonia, typhoid fever, tuberculosis and wasting diseases of the aged that a stimulant in the form of a good pure whisky is beyond doubt beneficial. Of course, I mean that the whisky should be used in moderation as a medicine and a stimulant. I have seen cases of pneumonia and typhoid fever in which I believe a little whisky did the trick. Used intelligently, it is in a class by itself in my opinion.—*Florence County.*

SOUTH DAKOTA

The prohibitory amendment of the state constitution went into effect, July 1, 1917. Legally qualified physicians in actual practice may secure permits from the state sheriff to prescribe alcoholic liquors. Prescriptions must be written in ink, indelible pencil, or on the typewriter, must be signed by the physician, and must show the number of his permit, the date, the name of the patient, the disease for which prescribed, the kind and quantity of liquor prescribed, the dosage, the number of prescriptions written for the same patient, and the total amount prescribed during the present three months. The physician must also certify that the liquor is needed for actual sickness. A copy of the prescription must be retained as well as a record of all liquors prescribed. Monthly reports with duplicate copies of all prescriptions must be filed with the county auditor.

RESULTS IN SOUTH DAKOTA

Number of physicians	452
Questionnaires sent	314
Questionnaires returned	202
Percentage of returns	65
General practitioners	188
Surgeons	7
Specialists	8
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?	
Yes	80
No	120
Do you regard beer as a necessary therapeutic agent in the practice of medicine?	
Yes	44
No	157
Do you regard wine as a necessary therapeutic agent in the practice of medicine?	
Yes	49
No	150
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?	
Yes	80
No	144
How many times have you found it advisable to prescribe these liquors in a month?	
Whisky: Number of physicians stating times advisable	43
Number of physicians stating no times advisable	102
Beer: Number of physicians stating times advisable	22
Number of physicians stating no times advisable	115
Wine: Number of physicians stating times advisable	19
Number of physicians stating no times advisable	112
Do you hold a federal permit?	
Yes	9
No	85
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?	
Yes (limit not specified)	31
Restricted absolutely	25
1 to 50 prescriptions	30
51 to 100 prescriptions	27
More than 100 prescriptions	1
Total	114
No restriction	85
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?	
Yes	117
No	77

Questionnaires were sent to 314 physicians in South Dakota, and 203, or 65 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: yes, 80; no, 120.

On the question "Is beer a necessary therapeutic agent?" the vote was: yes, 44; no, 157.

On the question "Is wine a necessary therapeutic agent?" the vote was: yes, 49; no, 150.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 50; no, 144.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors, 43 had found it advisable to prescribe whisky, and 103 had not found it advisable; 22 had found it advisable to prescribe beer, and 115 had not found it advisable; 19 had found it advisable to prescribe wine, and 112 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 9; no, 85.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 114 stated that they should be restricted, and 85 did not believe such restrictions necessary; 31 physicians answered yes, but did not specify a limit; 25 stated that the number should be restricted to absolutely none; 30 considered from 1 to 50 prescriptions in three months sufficient; 27 considered from 51 to 100 satisfactory, and 1 physician considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 117; no, 77.

TENNESSEE

The state prohibition law went into effect, July 1, 1909. This law was amended in 1917. Legally qualified physicians may prescribe alcohol only for medicinal use in quantities not to exceed 1 pint. Such prescriptions must be in triplicate and must contain the name and address of the patient and the physician. A copy must be kept for two years and a monthly report made to the pure food and drug department of the state.

Questionnaires were sent to 1,025 physicians in Tennessee, and 526, or 51 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Memphis, yes, 27; no, 37; Nashville, yes, 18; no, 23; Knoxville, yes, 9; no, 17; Chattanooga, yes, 10; no, 12. Total for the cities, yes, 64; no, 89; for the rural districts, yes, 160; no, 207; for the state, yes, 224; no, 296.

RESULTS IN TENNESSEE

TENNESSEE	Memphis	Nashville	Knoxville	Chattanooga	Total Cities	Rural	Grand Total
Number of physicians	428	252	173	155	1,108	2,220	3,328
Questionnaires sent	116	86	50	48	300	725	1,025
Questionnaires returned	66	42	26	22	156	370	526
Percentage of returns	57	49	52	46	52	51	51
General practitioners	56	27	18	13	94	350	444
Surgeons	14	9	3	7	33	4	37
Specialists	16	6	5	2	29	16	46
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?							
Yes	27	18	9	10	64	160	224
No	37	23	17	12	89	207	296
Do you regard beer as a necessary therapeutic agent in the practice of medicine?							
Yes	10	6	4	5	25	65	90
No	55	34	20	17	126	296	422
Do you regard wine as a necessary therapeutic agent in the practice of medicine?							
Yes	13	10	3	5	31	70	101
No	51	30	22	17	120	289	409
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?							
Yes	9	5	6	5	28	89	117
No	52	37	20	17	121	268	389
How many times have you found it advisable to prescribe these liquors in a month?							
Whisky: Number of physicians stating times advisable	15	11	5	6	37	99	136
Number of physicians stating no times advisable	34	17	16	12	79	189	268
Beer: Number of physicians stating times advisable	5	4	2	3	14	23	37
Number of physicians stating no times advisable	39	19	18	12	88	196	284
Wine: Number of physicians stating times advisable	5	5	...	2	12	30	42
Number of physicians stating no times advisable	38	19	20	13	90	190	280
Do you hold a federal permit?							
Yes	2	5	2	2	11	25	36
No	22	13	13	10	60	165	225
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write							
Yes (limit not specified)	9	10	4	1	24	73	97
Restricted absolutely	10	3	7	2	22	63	85
1 to 50 prescriptions	10	4	2	5	21	36	57
51 to 100 prescriptions	10	6	3	4	23	40	63
More than 100 prescriptions	...	...	...	...	...	5	5
Total	39	23	16	12	90	217	307
No restriction	20	18	7	9	54	133	187
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?							
Yes	41	24	19	12	96	244	340
No	22	16	6	10	54	108	162

COMMENTS

In our county we have no registered druggist. State law is as unreasonable as one could imagine. I simply cannot get any alcohol preparation to use. In our county moonshine is plentiful and is causing more harm to users than good whisky.—*Zirbach County.*

I have done general practice for twenty-five years and have had above the average of business, having a very large territory. I have not used a quart of whisky in that time—absolutely none for several years. While I think alcohol has some therapeutic value, there are other things that will take its place, perhaps do better. Alcohol as an external application is of use, also as an antiseptic and disinfectant, and this is about the only use I make of it. A law is needed to regulate its use for unscrupulous physicians only. The eighteenth amendment is not a hardship to physicians, and I would like to see it enforced rigidly.—*Spink County.*

I can find no valid objection to the idea of having the control and distribution of the stuff placed under and parallel with narcotics in an amended Harrison bill, such as we have become accustomed to and which is working with excellent success, apparently, and causing no unnecessary distress.—*Brookings County.*

On the question "Is beer a necessary therapeutic agent?" the vote was: Memphis, yes, 10; no, 55; Nashville, yes, 6; no, 34; Knoxville, yes, 4; no, 20; Chattanooga, yes, 5; no, 17. Total for the cities, yes, 25; no, 126; for the rural districts, yes, 65; no, 296; for the state, yes, 90; no, 422.

On the question "Is wine a necessary therapeutic agent?" the vote was: Memphis, yes, 13; no, 51; Nashville, yes, 10; no, 30; Knoxville, yes, 3; no, 22; Chattanooga, yes, 5; no, 17. Total for the cities, yes, 31; no, 120; for the rural districts, yes, 70; no, 289; for the state, yes, 101; no, 409.

The question "Have instances occurred in your own practice in which unnecessary suffering or death has resulted from enforcement of prohibition laws?" was answered: yes, 117; no, 389.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 136 had found it advisable to prescribe whisky, and 268 had not found it advisable; 37 had found it advisable to prescribe beer, and 284 had not found it advisable; 42 had found it advisable to prescribe wine, and 286 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 36; no, 225.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 307 stated that they should be restricted, and 187 did not believe such restrictions necessary; 97 physicians answered yes, but did not specify a limit; 85 stated that the number should be restricted to absolutely none; 57 considered from 1 to 50 prescriptions in three months sufficient; 63 considered from 51 to 100 satisfactory, and 5 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the replies were: yes, 340; no, 162.

COMMENTS

My personal observation has been that physicians who prescribe whisky will give their friends a prescription when asked to. Another class will give to any one for the almighty dollar. I have been informed by a government official in charge of this branch that about 97 per cent. of the prescriptions are for general disability. This alone tells the tale.—*Johnson County.*

The Harrison Narcotic Law is an ideal law; in time its limitations for good will be unlimited. If some such law could be enacted as this, it seems to me it would be a very satisfactory law. I would not want whisky turned loose on my state again without restrictions. Many doctors will respect their privilege; some will not. I am slow to restrict men's privileges when extended in the direction that is calculated to help the race; but it has been the fewest times in nineteen years' experience in the practice, if ever, of medicine, that I've seen whisky help my patient. I used to give it freely in a fairly good and liberal practice. I've stuck close to that drug that helped my patient most. I've been "not the first by whom the new is tried, nor yet the last to lay the old aside"; but after all these years of as close observation as I am capable, I am forced to this unbiased conclusion.—*DeKalb County.*

We get all we want here, but we have to buy it from bootleggers at from $10 to $20 a quart, which is a great hardship on some people. There is plenty for beverage and none for medical use. Heretofore respectable people were not lawless criminals.—*Nashville.*

Individually, I think alcohol and its different preparations should be placed under the same restrictions as are narcotics. There should certainly be some restrictions thrown around its prescribing. As it is in our state (Tennessee) we must become law violators to get it, and often the article is inferior. The present law encourages the illicit manufacture and sale of whisky because those who need it must patronize such manufacturers and dealers.—*Knoxville.*

TEXAS

The Texas prohibition law went into effect, June 26, 1918. Under it physicians may prescribe pure alcohol only, in amounts not to exceed 1 pint. Permits are issued by the comptroller of public accounts, who provides prescription books containing 100 serially numbered forms. The stubs must be returned to the comptroller after six months. Physicians are required to make a careful personal physical examination of the patient and to preserve a record of all prescriptions. A monthly report must be made to the comptroller of accounts.

Questionnaires were sent to 2,042 physicians in Texas, and 1,196, or 59 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Dallas, yes, 26; no, 33; Houston, yes, 25; no, 35; San Antonio, yes, 32; no, 20; Fort Worth, yes, 22; no, 19; El Paso, yes 19; no, 11. Total for the cities, yes, 124; no, 118; for the rural districts, yes, 367; no, 579; for the state, yes, 491; no, 697.

On the question "Is beer a necessary therapeutic agent?" the vote was: Dallas, yes, 12; no, 46; Houston, yes, 10; no, 50; San Antonio, yes, 18; no, 34; Fort Worth, yes, 15; no, 25; El Paso, yes, 17; no, 13. Total for the cities, yes, 72; no, 168; for the rural districts, yes, 194; no, 737; for the state, yes, 266; no, 905.

On the question "Is wine a necessary therapeutic agent?" the vote was: Dallas, yes, 17; no, 42; Houston, yes, 18; no, 41; San Antonio, yes, 24; no, 29; Fort Worth, yes, 19; no, 21; El Paso, yes, 17; no, 12. Total for the cities, yes, 95; no, 145; for the rural districts, yes, 220; no, 722; for the state, yes, 315; no, 867.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 276; no, 882.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month,

RESULTS IN TEXAS

TEXAS	Dallas	Houston	San Antonio	Fort Worth	El Paso	Total Cities	Rural	Grand Total
Number of physicians	385	291	280	244	155	1,364	4,841	6,205
Questionnaires sent	121	105	85	60	56	427	1,615	2,042
Questionnaires returned	60	60	53	41	31	245	951	1,196
Percentage of returns	50	57	62	68	55	57	59	59
General practitioners	34	44	40	28	30	166	875	1,041
Surgeons	12	8	6	3	7	36	33	69
Specialists	14	8	7	10	4	43	43	86
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?								
Yes	26	25	32	22	19	124	367	491
No	33	35	20	19	11	118	579	697
Do you regard beer as a necessary therapeutic agent in the practice of medicine?								
Yes	12	10	18	15	17	72	194	266
No	46	50	34	25	13	168	737	905
Do you regard wine as a necessary therapeutic agent in the practice of medicine?								
Yes	17	18	24	19	17	95	220	315
No	42	41	29	21	12	145	722	867
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?								
Yes	15	21	19	8	10	71	205	276
No	41	39	33	29	20	163	717	882
How many times have you found it advisable to prescribe these liquors in a month?								
Whisky: Number of physicians stating times advisable	19	14	25	16	9	83	218	301
Number of physicians stating no times advisable	24	33	15	16	12	100	536	636
Beer: Number of physicians stating times advisable	6	4	10	4	6	30	74	104
Number of physicians stating no times advisable	29	38	20	22	13	123	618	741
Wine: Number of physicians stating times advisable	7	5	13	8	7	40	77	117
Number of physicians stating no times advisable	28	36	18	20	12	114	607	721
Do you hold a federal permit?								
Yes	15	4	15	13	5	52	69	121
No	36	39	27	20	17	139	688	827
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?								
Yes (limit not specified)	7	12	10	9	4	42	166	208
Restricted absolutely	4	5	1	6	..	16	181	197
1 to 50 prescriptions	10	6	3	3	..	22	74	96
51 to 100 prescriptions	10	11	10	7	3	41	170	211
More than 100 prescriptions	1	..	..	1	..	2	19	21
Total	32	34	24	26	7	123	590	713
No restriction	26	26	27	14	12	116	331	447
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?								
Yes	36	35	31	25	13	140	610	750
No	21	23	21	15	16	96	306	402

301 physicians had found it advisable to prescribe whisky, and 636 had not found it advisable; 104 had found it advisable to prescribe beer, and 741 had not found it advisable; 117 had found it advisable to prescribe wine, and 721 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 121; no, 827.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 713 stated that they should be restricted, and 447 did not believe such restrictions necessary; 208 physicians answered yes, but did not specify a limit; 197 stated that the number should be restricted to absolutely none; 96 considered from 1 to 50 prescriptions in three months sufficient; 191 considered from 51 to 100 satisfactory, and 21 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 750; no, 402.

COMMENTS

I hold that if I am competent to determine when quinin or Epsom salt is indicated I am equally well qualified to prescribe alcoholic stimulants. In addition to federal regulations, Texas has another law (state) to comply with. I resent this attitude toward the profession, and consequently have never applied for a permit.—*Houston.*

I think there are times when whisky can be used to advantage and take the place of some more dangerous drug, like morphin. I have in mind many cases of dysmenorrhea which I have temporarily relieved with a hot whisky, thus avoiding the use of opiates and having to contend with its miserable after-effects. I really think that whisky has a place in the field of medicine; but so far as its being an absolutely necessary therapeutic agent, I class it with thousands of other medicines which we could easily get along without if we had to.—*Marlin.*

I hold both a federal and a state permit to use alcohol only, and for laboratory purposes only, both secured with much difficulty and considerable expense. I do not hold a permit to prescribe alcoholic liquors and do not want one because of the annoyance from those who desire to obtain liquors for illegal purposes; hence I have never prescribed liquors, but rarely I would like to do so. I do not think that alcoholic liquors are of value as medicines per se, but are useful as a means of securing the administration of foods, and rarely as a hypnotic, although I believe other hypnotics serve as well. I think the greatest objection to our prohibition laws as applied to physicians is found in the difficulty of securing alcohol for laboratory and similar purposes by individual doctors operating their own clinical laboratories on a small scale. I think it is a real hindrance to the progress of many physicians in that respect.—*Palestine.*

Alcohol and its preparations, properly handled by drug stores and physicians as are narcotics, will be of assistance to suffering humanity; but the legal restrictions, red tape and cost in our state of securing a permit make it impossible for a busy practitioner to meddle with it.—*Palestine.*

UTAH

The state prohibition law went into effect, Aug. 1, 1917. Physicians are not permitted to prescribe any compound containing more than 0.5 per cent. of alcohol by volume which is capable of being used as a beverage, or any medicine containing more than 4 ounces of alcohol.

Questionnaires were sent to 229 physicians in Utah, and 133, or 58 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Salt Lake City, yes, 23; no, 21; for the rural districts, yes, 41; no, 47; for the state, yes, 64; no, 68.

On the question "Is beer a necessary therapeutic agent?" the vote was: Salt Lake City, yes, 8; no, 35; for the rural districts, yes, 23; no, 62; for the state, yes, 31; no, 97.

On the question "Is wine a necessary therapeutic agent?" the vote was: Salt Lake City, yes, 12; no, 30; for the rural districts, yes, 25; no, 59; for the state, yes, 37; no, 89.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 35; no, 95.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 28 had found it advisable to prescribe whisky, and 69 had not found it advisable; 10 had found it necessary to prescribe beer, and 77 had not found it advisable; 11 had found it advisable to prescribe wine, and 77 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 2; no, 32.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 83 stated that they should be restricted, and 38 did not believe such restrictions necessary; 27 answered yes, but did not specify a limit; 23 stated that the number should be restricted to absolutely none; 13 considered from 1 to 50 prescriptions in three months sufficient; 19 considered from 51 to 100 satisfactory, and 1 physician considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 90; no, 34.

COMMENTS

Restrictions should be under government license similar to the present narcotic restrictions, sufficiently flexible to permit of use in case of need, and sufficiently binding to prevent the abuse of the privilege to a degree provably regular.—*Salt Lake City.*

I believe that nothing should be withheld from the ethical medical man that he would care to prescribe; but, outside its use as a solvent for drugs, I see no use in the prescribing of whisky, wine or beer as

RESULTS IN UTAH

UTAH	Salt Lake City	Rural	Grand Total
Number of physicians	239	257	496
Questionnaires sent	82	147	229
Questionnaires returned	44	89	133
Percentage of returns	54	61	58
General practitioners	29	84	113
Surgeons	6	2	8
Specialists	10	3	13
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?			
Yes	23	41	64
No	21	47	68
Do you regard beer as a necessary therapeutic agent in the practice of medicine?			
Yes	8	23	31
No	35	62	97
Do you regard wine as a necessary therapeutic agent in the practice of medicine?			
Yes	12	25	37
No	30	59	89
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?			
Yes	14	21	35
No	29	66	95
How many times have you found it advisable to prescribe these liquors in a month?			
Whisky: Number of physicians stating times advisable	8	25	28
Number of physicians stating no times advisable	36	43	69
Beer: Number of physicians stating times advisable	1	9	10
Number of physicians stating no times advisable	27	50	77
Wine: Number of physicians stating times advisable	2	9	11
Number of physicians stating no times advisable	27	50	77
Do you hold a federal permit?			
Yes	1	1	2
No	16	16	32
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?			
Yes (limit not specified)	11	16	27
Restricted absolutely	9	14	23
1 to 50 prescriptions	5	8	13
51 to 100 prescriptions	4	15	19
More than 100 prescriptions	...	1	1
Total	29	54	83
No restriction	7	31	38
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?			
Yes	32	58	90
No	8	26	34

such. To compel men who are subjected to the keenest of competition to prescribe alcohol in any form, by legislation, is simply bastardizing the profession.—*Emery County.*

In regard to regulating the number of prescriptions a physician may write for alcoholics, I think it would be fair to limit them, because the average physician would not be interfered with, in his work, by such a limit.—*Provo.*

VIRGINIA

The state prohibition law went into effect, Nov. 1, 1916. This law was amended in 1918 and 1920. Physicians may prescribe not to exceed 2 quarts of alcohol or 1 gallon of malt or vinous liquors or 1 quart of brandy or whisky.

Questionnaires were sent to 932 physicians in Virginia, and 473, or 51 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Richmond, yes, 36; no, 23; Norfolk, yes, 25; no, 20; Roanoke, yes, 8; no, 10; Portsmouth, yes, 4; no, 2.

Total for the cities, yes, 73; no, 55; for the rural districts, yes, 197; no, 147; for the state, yes, 270; no, 202.

On the question "Is beer a necessary therapeutic agent?" the vote was: Richmond, yes, 10; no, 48; Norfolk, yes, 10; no, 35; Roanoke, yes, 6; no, 12; Portsmouth, yes, 1; no, 5. Total for the cities, yes, 27; no, 100; for the rural districts, yes, 85; no, 257; for the state, yes, 112; no, 357.

On the question "Is wine a necessary therapeutic agent?" the vote was: Richmond, yes, 14; no, 44; Norfolk, yes, 10; no, 33; Roanoke, yes, 6; no, 12; Portsmouth, yes, 2; no, 4. Total for the cities, yes, 32; no, 93; for the rural districts, yes, 92; no, 247; for the state, yes, 124; no, 340.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 102; no, 358.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 201 had found it advisable to prescribe whisky, and 188 had not found it advisable; 32 had found it advisable to prescribe beer, and 341 had not found it advisable; 46 had found it advisable to prescribe wine, and 324 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 164; no, 257.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 251 stated that they should be restricted, and 214 did not believe such restrictions necessary; 50 physicians answered yes, but did not specify a limit; 37 stated that the number should be restricted to absolutely none; 39 considered from 1 to 50 prescriptions in three months sufficient; 118 considered from 51 to 100 satisfactory, and 7 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 256; no, 208.

COMMENTS

I prescribed once in 1919 on my federal permit when an old man with chronic bronchitis requested it, and he passed the bottle around to his friends; so I even regretted this one misused prescription, and have seen no need of ever prescribing any alcoholic beverage.—*Richmond.*

The entire prohibition law should be repealed and the Harrison Narcotic Law amended to include alcohol in all of its forms and put in every drug store in the United States for sale under the same restrictions and penalties as moonshining and bootlegging. These will never be controlled until the general public knows that it can get a little good liquor for sickness if it should be needed. Now the people are dependent on the crook in my section, and are not in position to report or punish the crook because a great many of them have had to go to him in a time of need.—*Culpeper County.*

I do not believe that alcohol is absolutely necessary in any disease, though in some cases I do think it is helpful, though I think there are other drugs that will act as well. If a doctor believes that his patients are really benefited by the administration of alcohol, I do not believe that he should be limited in the number of prescriptions other than by the number of patients who need whisky, beer or wine.—*Pittsylvania.*

I am opposed to state or federal legislation prohibiting any licensed physician from prescribing whisky whenever his judgment suggests its use for the good of his patient.—*Rockingham County.*

I am not a "crank" on this subject, and can conceive of cases in which whisky in some form might be of service; but I do not believe that any "unnecessary suffering or death" has been caused by lack of it. —*Norfolk.*

RESULTS IN VIRGINIA

VIRGINIA	Richmond	Norfolk	Roanoke	Portsmouth	Total Cities	Rural	Grand Total
Number of physicians	334	252	101	51	738	1,807	2,545
Questionnaires sent	112	73	34	14	233	699	932
Questionnaires returned	59	45	18	6	128	345	473
Percentage of returns	53	62	53	43	55	49	51
General practitioners	45	29	15	5	94	308	402
Surgeons	9	4	..	1	14	18	32
Specialists	5	12	3	..	20	19	39
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?							
Yes	36	25	8	4	73	197	270
No	23	20	10	2	55	147	202
Do you regard beer as a necessary therapeutic agent in the practice of medicine?							
Yes	10	10	6	1	27	85	112
No	48	35	12	5	100	257	357
Do you regard wine as a necessary therapeutic agent in the practice of medicine?							
Yes	14	10	6	2	32	92	124
No	44	33	12	4	93	247	340
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?							
Yes	7	7	2	..	16	86	102
No	49	35	16	5	105	253	358
How many times have you found it advisable to prescribe these liquors in a month?							
Whisky: Number of physicians stating times advisable	30	12	8	3	53	148	201
Number of physicians stating no times advisable	19	18	5	1	43	145	188
Beer: Number of physicians stating times advisable	..	3	1	..	4	28	32
Number of physicians stating no times advisable	43	29	10	4	83	258	341
Wine: Number of physicians stating times advisable	6	3	3	..	12	34	46
Number of physicians stating no times advisable	38	26	9	4	77	247	324
Do you hold a federal permit?							
Yes	35	10	9	2	56	108	164
No	18	25	8	4	55	202	257
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?							
Yes (limit not specified)	3	6	2	..	11	39	50
Restricted absolutely	3	4	1	..	8	29	37
1 to 50 prescriptions	7	..	2	3	10	29	39
51 to 100 prescriptions	21	11	7	..	39	79	118
More than 100 prescriptions	..	..	..	..	..	7	7
Total	33	21	12	3	68	183	251
No restriction	25	21	6	3	55	159	214
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?							
Yes	35	19	14	3	71	185	256
No	23	22	4	2	51	157	208

WASHINGTON

The state prohibitory law went into effect, Jan. 1, 1916, and was amended in 1917. No provision is made for prescribing either alcohol or alcoholic liquors. Legally qualified physicians may secure alcohol for scientific purposes only, on permits from the county auditor, but it will not permit them to prescribe or administer it in any form which can be used for a beverage.

Questionnaires were sent to 715 physicians in Washington, and 434, or 61 per cent., were returned.

To the question "Do you regard whisky as a necessary therapeutic agent in the practice of medicine?" the replies were: yes, 201; no, 225, thus distributed: Seattle, yes, 56; no, 51; Spokane, yes, 18; no, 22; Tacoma, yes, 4; no, 27; towns less than 50,000, and rural, yes, 123; no, 125.

To the question "Do you regard beer as a necessary therapeutic agent?" the replies were: yes, 112; no, 315. The total

replies from cities of 50,000 or more were: yes, 50; no, 131. The replies from the remainder of the state were: yes, 62; no, 184.

To the question "Do you regard wine as a necessary therapeutic agent?" the replies were: yes, 126; no, 297, thus distributed: cities of 50,000 or more: yes, 54; no, 123; remainder of the state: yes, 72; no, 174.

The question "Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?" was answered: yes, 123; no, 287.

The number of physicians who reported that they had found it advisable to prescribe liquor was: whisky, 136 advisable; 214 not advisable. Beer, 62 advisable; 246 not advisable. Wine, 71 advisable; 239 not advisable.

To the question, "Do you hold a federal permit?" the replies were: yes, 10; no, 112.

To the question whether there should be any limit to the number of prescriptions for alcoholic liquors that a physician should write, 265 replied that there should be, and 134, that there should not. There were 90 who failed to specify the limit; 63 would restrict prescribing absolutely; 43 would limit prescriptions to from 1 to 50 in three months; 61 placed the limit at from 51 to 100 in three months, and 8 placed the limit above 100 in that time.

Opinions on the question whether physicians should be restricted in prescribing alcoholic liquors showed 293 for restrictions and 122 against restrictions.

COMMENTS

At first glance it would seem to be an unwarranted interference on the part of those unskilled in medicine to limit the number of prescriptions to be given by a physician. Since the medical profession includes a good many—too many for the good of the profession—men who are willing for a price to prostitute their ability and their profession by issuing as many prescriptions for liquor as the law will allow and on the slightest pretext, the number should be restricted.—*Seattle.*

Liquor prescriptions should be on a regular printed form. They should be fillable at only one agency, and this should be a federal agency.—*Seattle.*

There are many drugs and therapeutic measures whose absence would not cause suffering or death, and yet whose use would add to the patient's comfort and assist in recovery. Alcohol in any of its forms is, in my opinion, one of these.—*Seattle.*

Many old people find it helpful and, oh boy, when you feel a cold coming on and you ache all over—but what's the use! This state was dry before the Eighteenth Amendment was born. And she is going to stay dry and we are all mighty glad of it.—*Adams County.*

I have been in active, general practice for twenty years and I have found that whisky is almost a specific in influenza.—*Kitsap County.*

I believe whisky, wine and beer to have a fairly wide and beneficial use in the treatment of the sick. When an indication for their use arises I do not think physicians should be restricted in the use of them. —*Skagit County.*

WEST VIRGINIA

The state prohibition law went into effect, July 1, 1914. This law, as amended in 1921, provides for the sale by druggests of pure grain alcohol only for medicinal purposes, and that physicians may use alcohol subject to the provisions of the federal law.

Questionnaires were sent to 746 physicians in West Virginia, and 444, or 60 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: Huntington, yes, 11; no, 12; Wheeling, yes, 13; no, 11. Total for the cities, yes, 24; no, 23; for the rural districts, yes, 182; no, 211; for the state, yes, 206; no, 234.

On the question "Is beer a necessary therapeutic agent?" the vote was: Huntington, yes, 6; no, 17; Wheeling, yes, 10; no, 14. Total for the cities, yes, 16; no, 31; for the rural districts, yes, 90; no, 297; for the state, yes, 106; no, 328.

On the question "Is wine a necessary therapeutic agent?" the vote was: Huntington, yes, 9; no, 14; Wheeling, yes, 10; no, 14. Total for the cities, yes, 19; no, 28; for the rural districts, yes, 104; no, 280; for the state, yes, 123; no, 308

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 114; no, 306.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month,

RESULTS IN WASHINGTON

WASHINGTON	Seattle	Spokane	Tacoma	Total Cities	Rural	Grand Total
Number of physicians	586	217	158	961	836	1,797
Questionnaires sent	187	72	48	307	408	715
Questionnaires returned	111	41	31	183	251	434
Percentage of returns	59	57	65	60	62	61
General practitioners	82	27	21	130	232	362
Surgeons	19	6	5	30	11	41
Specialists	10	8	5	23	8	31
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?						
Yes	50	18	4	78	123	201
No	51	22	27	100	125	225
Do you regard beer as a necessary therapeutic agent in the practice of medicine?						
Yes	35	11	4	50	62	112
No	74	30	27	131	184	315
Do you regard wine as a necessary therapeutic agent in the practice of medicine?						
Yes	37	13	4	54	72	126
No	70	26	27	123	174	297
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?						
Yes	34	10	4	48	75	123
No	66	30	27	123	164	287
How many times have you found it advisable to prescribe these liquors in a month?						
Whisky: Number of physicians stating times advisable	34	12	5	51	85	136
Number of physicians stating no times advisable	48	20	25	93	121	214
Beer: Number of physicians stating times advisable	13	7	2	22	40	62
Number of physicians stating no times advisable	57	20	26	103	143	246
Wine: Number of physicians stating times advisable	17	7	2	26	45	71
Number of physicians stating no times advisable	54	21	26	101	138	239
Do you hold a federal permit?						
Yes	3	1	1	5	5	10
No	21	9	14	44	68	112
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?						
Yes (limit not specified)	14	10	7	31	59	90
Restricted absolutely	16	9	6	32	31	63
1 to 50 prescriptions	8	6	..	14	29	43
51 to 100 prescriptions	23	4	6	33	28	61
More than 100 prescriptions	2	..	..	2	6	8
Total	65	29	18	112	153	265
No restriction	33	10	12	55	79	134
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?						
Yes	74	32	18	124	169	293
No	29	8	11	48	74	122

116 had found it advisable to prescribe whisky, and 225 had not found it advisable; 33 had found it advisable to prescribe beer, and 306 had not found it advisable; 49 had found it advisable to prescribe wine, and 291 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 15; no, 180.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 237 stated that they should be restricted, and 181 did not consider such restrictions necessary; 77 physicians answered yes, but did not specify a limit; 65 stated that the number should be limited to absolutely none; 37 considered from 1 to 50 prescriptions in three months sufficient; 56 considered from 51 to 100 satisfactory, and 2 physicians considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote for restrictions was 279; against restrictions, 149.

VERMONT

The federal law went into effect in Vermont, July 1, 1919. The state law of 1921 permits physicians holding federal permits to prescribe alcoholic liquors for medicinal use only. A copy of the federal permit must be filed with the secretary of state.

Questionnaires were sent to 253 physicians in Vermont, and 154, or 61 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: yes, 79; no, 74.

On the question "Is beer a necessary therapeutic agent?" the vote was: yes, 27; no, 124.

On the question "Is wine a necessary therapeutic agent?" the vote was: yes, 46; no, 103.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 31; no, 114.

RESULTS IN WEST VIRGINIA

WEST VIRGINIA	Huntington	Wheeling	Total Cities	Rural	Grand Total
Number of physicians	111	102	213	1,504	1,717
Questionnaires sent	36	42	78	668	746
Questionnaires returned	23	24	47	397	444
Percentage of returns	64	57	60	59	60
General practitioners	12	19	31	370	401
Surgeons	6	4	10	16	26
Specialists	5	1	6	11	17
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?					
Yes	11	13	24	182	206
No	12	11	23	211	234
Do you regard beer as a necessary therapeutic agent in the practice of medicine?					
Yes	6	10	16	90	106
No	17	14	31	297	328
Do you regard wine as a necessary therapeutic agent in the practice of medicine?					
Yes	9	10	19	104	123
No	14	14	28	280	308
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?					
Yes	7	8	15	99	114
No	15	16	31	275	306
How many times have you found it advisable to prescribe these liquors in a month?					
Whisky: Number of physicians stating times advisable	7	6	13	103	116
Number of physicians stating no times advisable	8	11	19	306	325
Beer: Number of physicians stating times advisable	2	4	6	27	33
Number of physicians stating no times advisable	13	12	25	281	306
Wine: Number of physicians stating times advisable	4	5	9	40	49
Number of physicians stating no times advisable	11	11	22	280	291
Do you hold a federal permit?					
Yes	1	..	1	14	15
No	13	2	15	165	180
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?					
Yes (limit not specified)	3	3	6	71	77
Restricted absolutely	1	6	7	58	65
1 to 50 prescriptions	..	..	..	37	37
51 to 100 prescriptions	5	4	9	47	56
More than 100 prescriptions	..	..	..	2	2
Total	9	13	22	215	237
No restriction	13	9	22	150	141
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?					
Yes	13	15	28	251	279
No	10	8	18	131	149

COMMENTS

Physicians should be allowed to prescribe alcohol only; this would allow the patients the benefit of any possible doubt, provided the physician thought the alcohol effect was required. It would tend to abolish the use of these as alcoholic beverages.—*Wheeling.*

Our state law is most drastic. The medical profession has absolutely no privileges under it. We cannot have in our possession a dram of alcohol (unmedicated), whisky, wine, beer, etc. We are allowed to buy not more than a pint of medicated alcohol at one time. The same privilege is given to the street bum.—*Wheeling.*

Personally, I am a total abstainer, but am sorry to say that I have advised the friends of some of my patients to secure a little good moonshine (if there is such a thing) in several cases in which I honestly thought it would do the patients good. I know this is bad advice for a doctor to give, but I feel that in case of life or death the laws should not interfere, and that we should not be deprived of any agent, although I believe that the prescribing or dispensing of alcohol should be regulated similar to opium and the other narcotics.—*Logan County.*

If whisky is allowed, it should in my opinion be controlled by the government and regulated by dispensaries under government supervision and taken out of the hands of physicians. This method of control is for beverage, not for medicinal use.—*Bluefield.*

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 62 had found it advisable to prescribe whisky, and 59 had not found it advisable; 4 had found it advisable to prescribe beer, and 83 had not found it advisable; 22 had found it advisable to prescribe wine, and 73 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 67; no, 72.

On the question as to whether there should be any limit to the number of prescriptions for alcoholic liquors that a physician should write, 83 stated that there should be restrictions, and 66 did not believe that such restrictions were necessary; 42 physicians answered yes, but did not specify a limit; 8 stated that the number of prescriptions should be limited to absolutely none; 10 considered from 1 to 50 prescriptions in three months sufficient; 23 considered from 51 to 100 satisfactory, and no physician of those replying considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 87; no, 63.

COMMENTS

In my own practice, many more cases of suffering and possibly death might have resulted had I been obliged to depend upon the strict operation of the federal law, but I have usually been able to secure enough spirits from my friends to tide over any emergency. The nearest drug

RESULTS IN VERMONT

Number of physicians	504
Questionnaires sent	232
Questionnaires returned	154
Percentage of returns	61
General practitioners	139
Surgeons	8
Specialists	8
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?	
Yes	79
No	74
Do you regard beer as a necessary therapeutic agent in the practice of medicine?	
Yes	27
No	124
Do you regard wine as a necessary therapeutic agent in the practice of medicine?	
Yes	46
No	103
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?	
Yes	31
No	114
How many times have you found it advisable to prescribe these liquors in a month?	
Whisky: Number of physicians stating times advisable	62
Number of physicians stating no times advisable	59
Beer: Number of physicians stating times advisable	4
Number of physicians stating no times advisable	83
Wine: Number of physicians stating times advisable	22
Number of physicians stating no times advisable	73
Do you hold a federal permit?	
Yes	67
No	72
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?	
Yes (limit not specified)	42
Restricted absolutely	8
1 to 50 prescriptions	10
51 to 100 prescriptions	23
More than 100 prescriptions	0
Total	83
No restriction	66
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?	
Yes	87
No	63

store holding a permit to fill prescriptions is 15 miles distant. I believe that a physician professionally and morally qualified to write one prescription for whisky should be permitted to use his judgment and discretion as to the number of prescriptions he should write. The care of his own reputation and the good opinion of his colleagues and the community should be the surest check on any indiscretion in prescription writing.—*Windsor.*

I feel that the use of alcohol in medicine is very limited, but that if we wish to use it we should have that right without so much red tape. —*Orange County.*

I have no license to prescribe spirituous liquors, as there is no licensed drug store within 8 miles of me. I am, however, located on the border, and in cases of emergency we can bootleg it across the border.—*Orleans County.*

WYOMING

The federal prohibition act became effective in Wyoming, July 1, 1919. Previous to that time, part of the state had been under local option. The state prohibition law became effective, June 30, 1919. The constitutional prohibition amendment went into effect, Jan. 1, 1920. Physicians may prescribe spirituous liquors in quantities not to exceed 1 pint for each patient in ten days. Permits are issued by the state commissioner of law enforcement and are good for one year. Physicians may prescribe for patients after careful physical examination of the patient on the best information obtainable. Records of all prescriptions must be preserved.

Questionnaires were sent to 145 physicians in Wyoming, and 92, or 63 per cent., were returned.

On the question "Is whisky a necessary therapeutic agent?" the vote was: yes, 52; no, 40.

On the question "Is beer a necessary therapeutic agent?" the vote was: yes, 31; no, 60.

On the question "Is wine a necessary therapeutic agent?" the vote was: yes, 35; no, 55.

On the question as to whether physicians had witnessed unnecessary suffering or death from enforcement of the prohibition laws, the replies were: yes, 31; no, 59.

On the question as to the number of times physicians had found it advisable to prescribe alcoholic liquors per month, 28 had found it advisable to prescribe whisky, and 43 had not found it advisable; 13 had found it advisable to prescribe beer, and 48 had not found it advisable; 14 physicians had found it advisable to prescribe wine, and 44 had not found it advisable.

To the question "Do you hold a federal permit?" the replies were: yes, 18, no, 51.

On the question as to whether physicians should be restricted in the number of prescriptions for alcoholic liquors, 39 stated that they should be restricted, and 52 did not believe such restrictions necessary; 10 physicians answered yes, but did not specify a limit; 15 stated that the number should be restricted to absolutely none; 6 considered from 1 to 50 prescriptions in three months sufficient; 7 considered from 51 to 100 prescriptions satisfactory, and 1 physician considered 100 insufficient.

On the question "Should physicians be restricted in prescribing alcoholic liquors?" the vote was: yes, 43; no, 47.

RESULTS IN WYOMING

Number of physicians	267
Questionnaires sent	145
Questionnaires returned	92
Percentage of returns	63
General practitioners	86
Surgeons	4
Specialists	2
Do you regard whisky as a necessary therapeutic agent in the practice of medicine?	
Yes	52
No	40
Do you regard beer as a necessary therapeutic agent in the practice of medicine?	
Yes	31
No	60
Do you regard wine as a necessary therapeutic agent in the practice of medicine?	
Yes	35
No	55
Have instances occurred in your own practice in which unnecessary suffering or death has resulted from the enforcement of prohibition laws?	
Yes	31
No	59
How many times have you found it advisable to prescribe these liquors in a month?	
Whisky: Number of physicians stating times advisable	28
Number of physicians stating no times advisable	43
Beer: Number of physicians stating times advisable	13
Number of physicians stating no times advisable	48
Wine: Number of physicians stating times advisable	14
Number of physicians stating no times advisable	44
Do you hold a federal permit?	
Yes	18
No	51
The present regulations limit the number of prescriptions to 100 in three months. In your opinion, should there be any limit to the number of prescriptions for alcoholic liquors a physician may write?	
Yes (limit not specified)	10
Restricted absolutely	15
1 to 50 prescriptions	6
51 to 100 prescriptions	7
More than 100 prescriptions	1
Total	39
No restriction	52
In your opinion, should physicians be restricted in prescribing whisky, beer and wine?	
Yes	43
No	47

COMMENTS

You can't prescribe it in the "emergency" as the law is now. How can the patient 25 miles in the country get it, or after the drug stores close at night? A limited amount purchased by government permit will allow any temperate family to have some on hand. Now it is "moonshine" or something worse. Not entirely a necessity, more a satisfaction —comfort, belief of protection before the doctor arrives, etc.—*Sheridan.*

An honest man does not need to be limited, or tied up with so much red tape as now exists.—*Thermopolis.*

Marriages

David Livingston Rundlett, Sioux Falls, S. D., to Miss Lydia Maria Frederickson of Hanska, Minn., January 1.

Clarence Milton Sonne, Philadelphia, to Miss Lillian Dissinger Carpenter of Lebanon, Pa., recently.

Albert Marine Weston, Los Angeles, to Dr. Edith Steinberger of Sierra Madre, Calif., December 23.

Albert John Weirick, Marseilles, Ill., to Miss Maude Beale of Crown Point, Ind., January 12.

Gilbert Richard Micklethwaite to Miss Margaret Legler, both of Portsmouth, Ohio, December 27.

Rezin Reagan, Sioux Falls, S. D., to Miss Helen A. Johnson of Cokato, Minn., recently.

Richard Raymond Cranmer to Miss Mildred Wheeler, both of Minneapolis, in December.

Clinton G. Beckett to Miss Florence Hildebrand, both of Attica, Ind., December 25.

Edwin E. Campbell to Miss Marcia Rettit, both of Watertown, N. Y., January 3.

Frank W. Brey to Miss Elizabeth Daub, both of Wabasso, Minn., in December.

Iver Stoland to Miss Nellie Kleppen, both of Eau Claire, Wis., in November.

Charles Kahn to Miss Gertrude Moak, both of Chicago, December 29.

Deaths

William Phillips Carr, Washington, D. C.; Columbian University, Washington, D. C., 1888; died, December 27, from heart disease, at Summit Point, W. Va. Dr. Carr was professor of visceral anatomy, 1891-1895, physiology, 1894-1906, clinical surgery since 1906, George Washington University Medical School, Washington; member of the Medical Society of Virginia; Southern Surgical and Gynecological Association and the Association of American Anatomists.

George Erety Shoemaker ● Philadelphia; University of Pennsylvania, Philadelphia, 1882; for twenty-eight years member of the staff of the Presbyterian Hospital; consulting gynecologist of the Woman's Hospital, Philadelphia, and the Epileptic Hospital and Colony Farm, Oakbourne, Pa.; specialized in obstetrics; member of the Philadelphia Academy of Surgery, the Obstetrical Society of Philadelphia; died suddenly, January 5, from heart disease, aged 65.

Wesley Grove Vincent ● New York City; Yale University, School of Medicine, New Haven, Conn., 1900; professor of surgery in the Post-Graduate Hospital; former attending physician St. Bartholomew's Clinic, New York City; member of the New York Academy of Medicine and the Medical Association of Greater New York; died suddenly from heart disease in his office, while attending a patient, January 3, aged 50.

Ernest Waldron Cheyney, Montgomery, Ala.; University of Pennsylvania, 1917; director of the state laboratory and Pasteur Institute, Montgomery; formerly Edward Hickling Bradford fellow in medical research, Medical School of Harvard University, 1919-1920; at one time taught bacteriology in the University of Wisconsin, Madison, and served as state bacteriologist; died, December 25, at the home of his father in Philadelphia, aged 31.

Thomas Kelso Cruse, Wappingers Falls, N. Y.; Bellevue Hospital Medical College, New York City, 1870; health officer of Wappingers Falls; formerly professor of genito-urinary diseases, College of Physicians and Surgeons, Chicago; served as medical examiner for the U. S. Pension Bureau, Washington, D. C.; died, December 31, from septicemia following gangrene of the foot, aged 73.

William Herman Kennison, Madison, Me.; Boston University School of Medicine, 1899; member of the school committee; served during the World War as lieutenant, M. C., U. S. Army; died, December 26, at the Massachusetts Homeopathic Hospital, Boston, following an operation on the stomach, aged 52.

● Indicates "Fellow" of the American Medical Association.

Henry C. Register ● Haverford, Pa.; Jefferson Medical College, Philadelphia, 1874; clinical teacher of dentistry at the Philadelphia Dental College and the University of Pennsylvania; veteran of the Civil War; inventor of many appliances used by practicing dentists; died, December 22, from senility, aged 77.

Clarence Shelton McClintock, Kansas City, Mo.; Kansas Medical College, Topeka, 1893; department of surgery, Kansas City University of Medicine and Surgery; formerly occupied the chair of anatomy, Kansas Medical College, Topeka; died suddenly, from heart disease, December 29, in his office, aged 56.

William Pierce Matthews, Sacramento, Calif.; Washington University School of Medicine, Baltimore, 1868; former secretary of the state board of health of California, and member of the state legislature; died, December 29, from cerebral hemorrhage, at the home of his daughter, in Oakland, Calif., aged 78.

Hugh Donald Scott, Monroe, Va.; Medical College of Virginia, Richmond, 1884; member of the Medical Society of Virginia; member of the board of supervisors; for two sessions, member of the state legislature; died suddenly, from heart disease, December 29, at the home of a patient, aged 64.

Franklin Burt, Lahaina, Hawaii; University of Toronto, Faculty of Medicine, Toronto, Canada, 1879; member of the Medical Society of Hawaii; surgeon of the Pioneer Sugar Company's Hospital, Maui Island, where he died, December 10, from tuberculosis and chronic nephritis, aged 63.

Arthur Lucius Davis, Durango, Colo.; Gross Medical College, Denver, 1895; member of the Colorado State Medical Society; member of the Colorado Ophthalmological Society; shot himself through the head with a revolver, December 29, while suffering from a nervous breakdown, aged 53.

Albert Wilfred Adams, Bellevue, Mich.; University of Michigan, Ann Arbor, 1872; member of the Michigan State Medical Society; Bellevue Hospital Medical College, New York City, 1873; practitioner for nearly half a century; died, recently, following a long illness, aged 74.

Martha Gurine Thorwick di Giannini, Ventura, Calif.; College of Physicians and Surgeons, Chicago, 1901; formerly clinician to the Pacific Dispensary of the Children's Hospital, San Francisco; died, November 16, from carcinoma of the stomach, in San Francisco, aged 58.

Charles Newton Huston, Hamilton, Ohio; Medical College of Ohio, Cincinnati, 1887; served as city school examiner and on the board of education; also a druggist; formerly city physician and health officer; died, December 11, from cerebral hemorrhage, aged 65.

Hugh B. Smith, Nashville, Tenn.; University of Nashville, 1905; member of the Tennessee State Medical Association; was found dead in bed at the Savoy Hotel, December 26, with a bullet wound through the heart, presumably self-inflicted, aged 43.

William Crawford Gallagher, Slaterville Springs, N. Y.; Geneva Medical College, Geneva, N. Y., 1863; member of the Medical Society of the State of New York; former member and chairman of the county board of supervisors; died, December 24, aged 81.

Eugene Bascom Poole, La Grange, Ga.; University of Alabama School of Medicine, Tuscaloosa, Ala., 1885; member of the Medical Association of Georgia; died, December 25, at the Baptist Hospital, Jackson, Miss., following an operation, aged 69.

H. Dewey Chamberlin, Nevada, Iowa; University of Michigan, Ann Arbor, 1876; formerly city health officer and secretary of Story County board of pension examiners; died, December 31, at a hospital in Colorado Springs, Colo., aged 73.

Thomas Jefferson Hower, North Pleasureville, Ky.; Louisville (Ky.) Medical College, 1885; member of the Kentucky State Medical Association; member of the county board of health; died, December 24, from cardiac asthma, aged 59.

James Gerrit Van Zwaluwenburg ● Ann Arbor, Mich.; University of Michigan, Ann Arbor, 1908; member of the American Roentgen Ray Society; professor of roentgenology at his alma mater; died, January 5, after a short illness, aged 47.

William Samuel Hutchinson, Anderson, S. C.; Baltimore Medical College, Baltimore, 1897; member of the South Carolina Medical Association; died, December 29, at the Anderson County Hospital, from chronic nephritis, aged 46.

Harry Leedon Thomas, Langhorne, Pa.; Jefferson Medical College, Phialdelphia, 1893; member of the Medical Society of the State of Pennsylvania; died, December 25, following an operation in a Philadelphia hospital, aged 51.

Arthur P. Schulse, Cleveland; Cleveland College of Physicians and Surgeons, Medical Department of Ohio Wesleyan University, 1905; former physician at St. John's Hospital; died, December 12, at Grace Hospital, aged 38.

Matthew Philander Cady, Birnamwood, Wis.; College of Physicians and Surgeons, Chicago, 1905; member of the State Medical Society of Wisconsin; died, December 31, from pneumonia, at the City Hospital, Antigo, aged 61.

Glenn A. Howard, Rockford, Ill.; College of Physicians and Surgeons, Chicago, 1902; member of the Illinois State Medical Society; died, December 29, from pleuropneumonia, at St. Anthony's Hospital, Rockford, aged 41.

Johnson Rufus Woodward, Oxford, Mass.; University of Vermont, College of Medicine, Burlington, 1888; formerly medical examiner for Worcester County; died in October, from paresis, at Newton, Mass., aged 56.

Walter Watson ● Mount Vernon, Ill.; Medical College of Ohio, Cincinnati, 1875; former superintendent of the State Hospital for Insane, Jacksonville; died, January 8, at St. Luke's Hospital, St. Louis, aged 70.

Charles M. Menville, Houma, La.; Louisville Medical College, Louisville, Ky., 1885; president of the state board of medical examiners; coroner; county health officer; died, December 30, aged 63.

William James Hawkes, Los Angeles; Hahnemann Medical College and Hospital of Philadelphia, 1867; president of the state homeopathic society; died suddenly, December 27, from heart disease, aged 73.

Marion C. Foulks, Canton, Ohio; University of Wooster, Medical Department, Cleveland, 1876; member of the Ohio State Medical Association; died, December 27, at the home of his son, aged 70.

Mary J. Hays ● Kane, Pa.; University of Buffalo, N. Y., 1897; superintendent and house physician of the Kane Summit Hospital, since its opening, 1894; died, December 29, from pneumonia, aged 59.

Henry A. Moseley, Dallas, Texas; University of Nashville, Nashville, Tenn., 1868; Confederate veteran; served as member of the school board; died, December 29, after a lingering illness, aged 78.

John Christopher O'Conner ● Manchester, N. H.; Medical School of Maine (Bowdoin Medical School), Brunswick and Portland, 1905; specialized in surgery; died, suddenly, January 6, aged 42.

George E. Vaughan, Cando, N. D.; St. Louis Medical College (Washington University) St. Louis, 1863; practitioner for more than half a century; died, December 22, from senility, aged 83.

Luther B. Folk, Columbia, S. C.; Medical College of the State of South Carolina, Charleston, 1875; served as county treasurer; died suddenly, December 12, from heart disease, aged 67.

Ralph E. Fulton, Mount Pleasant, Pa.; Jefferson Medical College, Philadelphia, 1869; practitioner for more than half a century; died, December 29, following a nervous breakdown, aged 73.

David Laurence Smith ● Spokane, Wash.; Marion Sims College of Medicine, St. Louis, 1892; formerly coroner and city health officer; died, December 20, from paresis, aged 72.

Joseph D. Bennet, Seattle, Wash.; University of Michigan, Ann Arbor, 1890; died, November 10, from cerebral hemorrhage, in the Fairview Hospital, Sultan, Wash., aged 63.

Robert G. Keller, Freeman, Mo.; Kansas City Medical College, 1894; member of the Missouri State Medical Association; died, December 21, from smallpox, aged 53.

Leslie Earl Vandiver, Brady, Neb.; John A. Creighton Medical College, Omaha, 1915; died in December following a short illness, at a hospital in Ogallala, aged 37.

Gustavus Helbing, Fort Worth, Texas; Eclectic Medical Institute, Cincinnati, 1887; died, November 8, from senility and the effects of a fractured hip, aged 77.

Edward E. Kolar, Chicago; Rush Medical College, Chicago, 1893; died, January 8, from tuberculosis, aged 50.

Joseph P. Otto, Chicago; Chicago Medical College (Northwestern University), Chicago, 1873; died, January 4, aged 72.

Correspondence

INFLUENCE OF ANTITYPHOID VACCINATION ON THE PRODUCTION OF HEART DISEASE

To the Editor:—Some time ago my attention was directed to certain statements, relative to the influence of antityphoid vaccination on the production of heart disease, made by Dr. Walter R. Hadwen of England in public addresses delivered in the United States and later published in certain American periodicals.

Some of these statements were so extraordinary and so at variance with the experience of the United States Army that it was considered desirable to secure further information relative to their validity from the director-general of the British Army Medical Service.

The following letter, which is self-explanatory, was written General Goodwin, Director-General, Army Medical Service, British Army:

Sept. 30, 1921.

Sir Thomas H. Goodwin,
Dir. Gen., A. M. S.,
War Office, Whitehall, S. W. 1,
London, England.

My dear General Goodwin:—Recently a Dr. Walter R. Hadwen of Gloucester, England, who evidently is a strong antivaccinationist and antivivisectionist, has given a number of addresses on this subject in the United States. Two of these addresses, one delivered in Philadelphia and one delivered in Boston, have been published in the journals known as the *Starry Cross*, Volume 30, No. 6, June, 1921, and *Living Tissue*, Volume VI, No. 8, June, 1921, respectively. Dr. Hadwen made some most extraordinary statements in these two addresses relative to antityphoid vaccination as a causative factor in the production of heart disease. The following quotation from his statement in the *Starry Cross*, June, 1921, appears in his address:

When we put the next question, in order to bring out some more figures, we received this astounding and unexpected answer from the minister—that four millions [of pounds sterling] a year were being paid in pensions to discharged soldiers on account of their suffering from heart disease alone. Four millions a year! Every man had gone into the army perfectly healthy—with heart disease he would not have been accepted. He is now an invalid and he is receiving—these discharged and invalided soldiers—four millions a year pension for heart disease! What is the meaning of it? What illness has there been that has caused this condition? In the treatment of my own cases I can find nothing in the world to cause this but antityphoid inoculation, and I guarantee that the greater part of that four millions a year that is being paid to these poor, wretched, ruined fellows is due to this abominable method of preparing British soldiers to fight the enemies of their country. It seems to me a most awful thing, that they should be prepared for the battle field by first of all poisoning their life blood with filthy concoctions of this horrible stuff. (Applause.)

The following statement is attributed to him in the address made in Boston and reproduced in *Living Tissue*, June, 1921.

We have lately heard that Dr. Eliot, a member of the British Parliament, stated that great discoveries have been made by means of Dr. Lewis' experiments upon the hearts of dogs, and by that means, it was stated in an interview to a newspaper, £46,000 annually had been saved in pensions to soldiers. I was rather staggered when I read that. I framed a question and gave it to a member of the House of Commons, who asked the Minister of Pensions if he would kindly inform the House if it were true that £46,000 had been saved by this new discovery, and if so, what the discovery was. The answer was that he didn't know anything at all about it, and that he knew there had been some experiments, but if further particulars were given he would make further inquiries. The member said, "Are you aware that the statement was made to an interviewer by Dr. Eliot?" He said no, he wasn't. So we put another question, and then the minister told us in reply nothing about the discoveries and said that there was no record of the saving of £46,000, but four millions of money were being paid at the present time in pensions to soldiers who were suffering from heart disease. That was a revelation that I hadn't bargained for—four millions of money paid to soldiers purely as pensions on account of heart disease. Why is this? None of those men would have been admitted to the army. Why is this? Well, I have had several of them as my own patients, and I will tell you why that heart disease has occurred. They have not had rheumatic fever, they have not had any of those various diseases that bring about heart disease, but in every case—fine, healthy

men they were before the war—they were inoculated with antityphoid serum, a fever was produced (because antityphoid serum is nothing more or less than blood poisoning) and it produces its effect sometimes upon the heart, sometimes upon the brain, and sometimes upon the kidneys. Its effect upon the heart had produced this result. I have patients at the present time who were perfectly healthy when they entered the army. They were inoculated with antityphoid serum, were sent immediately to the hospital, and were there for several weeks and then invalided out without doing a thing for their country. And if I have had cases of that sort, how many others have had similar cases? Four millions of money paid out for heart disease! And I have no hesitation in giving my own firm opinion publicly tonight that nine tenths of those cases were the direct result of the blood poison by antityphoid inoculation inflicted upon British soldiers. We had several cases in which the men were killed outright by it; numbers of them were ruined for life. That was the preparation the British Army received for the battlefield, in spite of which there has been a great amount of typhoid fever, although much of it was reduced in the statistics.

As you know, the American Army during the World War was completely protected against fevers of the typhoid-paratyphoid group by vaccination. More than four million complete antityphoid-paratyphoid inoculations were administered, and this office has no knowledge of any cases of heart disease or death that could be attributed to its administration.

I would very much appreciate any information you may feel at liberty to furnish as to whether the statements quoted above are in accordance with the facts, and especially whether your army statistics show that heart disease or death could be attributed to antityphoid-paratyphoid inoculation, as stated by Dr. Hadwen. We would furthermore appreciate any information that you may be able to furnish me as to whether any ill effects followed these inoculations. It is my desire to use such information as you may be able to give me for publication.

Very truly yours,
M. W. IRELAND,
Surgeon General, U. S. Army.

This office recently has received the following reply to the foregoing letter, which is also self-explanatory:

War Office, Whitehall, S. W. 1,
November, 1921.

Dear General Ireland:—Although I feel sure that the following comments on Dr. Hadwen's published remarks will tell you nothing which you do not know already, still, I answer your questions with pleasure and have no objection to your publishing them.

Dr. Hadwen quotes an answer given in the House of Commons to a question asking the total amount of money given in the form of pensions to soldiers invalided for cardiovascular affections. This was stated at the time, no doubt correctly, to be £4,000,000 per annum. At the present time the amount approximates £2,700,000, which is drawn annually by about 100,000 pensioners, 60,000 of these being classed as "functional disease of the heart" and the remaining 40,000 as "organic disease of the heart."

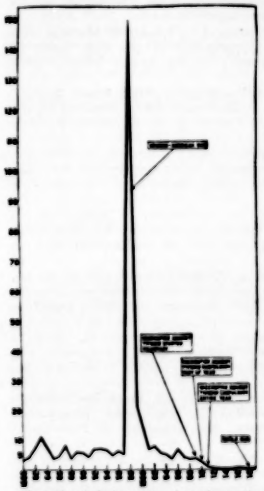
The statement, attributed to Captain Eliot, M. P., that a sum of £46,000 had been saved annually through the application of the results of Dr. T. Lewis' work is clearly based on the Annual Report of the Medical Research Council for 1919-1920, where an estimate of this amount is given in connection with the probable saving, in the London District alone, consequent upon the adoption of the methods and principles of treatment advocated by Dr. Lewis. These methods—of graduated exercises, etc.—have thoroughly proved their value. It should hardly be necessary to make such a statement in view of the world-wide reputation of Dr. Lewis and the revolution which his researches, and those of his colleagues, have effected in connection with the diagnosis, treatment and prognosis of cardiac disease.

From these figures Dr. Hadwen deduces that these cases were almost entirely caused by inoculation with antityphoid vaccine—at least one assumes that this is what he means, although he speaks of it as antityphoid serum.

This deduction is entirely contrary to the facts, and the true causes of the cardiac troubles for which these men received or are receiving pensions have been established by patient and arduous research on the part of many highly qualified cardiac experts. The majority—from 50 to 60 per cent.—have been shown by their history to have had an infection of one kind or another as the starting point of their trouble. Of these infections the most common have been rheumatic fever, chorea, pneumonia, pleurisy, bronchitis, influenza, diphtheria, scarlet fever, trench fever and dysentery. Of a group of 558 cases, specially investigated, symptoms of the condition were stated to have been present in no less than 43 per cent. at the time when the men joined the service; 12 per cent. acquired their first symptoms on training, and 45 per cent. on active service. It is quite certain that a large number of men succeeded in enlisting, especially in the earlier days of the war, at the third or fourth attempt, making no mention of heart troubles from which they had suffered in a more or less pronounced form, often for years before.

Of those who contracted heart troubles after enlistment, the incidence was found to have been especially heavy among such men as had led an indoor or sedentary life before joining; more than half of the cases were drawn from this class. Such men were found to be less able than their comrades to stand the unaccustomed strain of marching with army equipment. The great majority of the remainder were attributed to one or other of the following exciting causes: shock, wounds, burns, accidents, poisoning by gas, strains. In less degree, tobacco and alcohol were considered to have played a small part.

Dr. Lewis, in a letter dated Oct. 24, 1921, says: "Approximately one half of the cases of so-called 'D. A. H.' who have been on the pensioners' list had their malady when they joined the army. Of the remainder, namely, those who acquired the malady on service, one may say that the chief exciting causes were rheumatic fever, influenza, P. U. O., and other infectious diseases, and the wear and tear of trench work. I may say quite positively that inoculation has not been a cause worth considering statistically."



Annual admission rates per thousand for typhoid fever among white enlisted men in the United States Army for the years 1880 to 1919, inclusive.

In the enormous majority of pensioned cases of heart trouble the causes were such as to make the origin of the affection quite clear, and do not lend the smallest support to Dr. Hadwen's conjectures.

It is not possible to deny that inoculation with antityphoid vaccine, and possibly with other vaccines, might conceivably give rise to a certain degree of irregularity in the heart's action of longer or shorter duration, but it is abundantly clear that, if such a result ever occurs, it is of extraordinary rarity and has not been encountered by our medical officers.

No case of death directly and solely attributable to typhoid vaccine has come to my notice; in a few cases where inoculation had preceded death by a short period, there was always found some disease, such as pneumonia or meningitis, quite sufficient to account for death apart from inoculation.

Of other permanent ill effects consequent on inoculation, I have had no evidence. On the contrary, during the war, in response to some questions asked in the House by anti-vivisection sympathizers, a special inquiry was made in the B. E. F. of all the distinguished gentlemen who were acting as consulting physicians, gentlemen of, I may say, world-wide reputation, as to whether they had observed any evidence of such deleterious effects. The answers were unanimously in the negative.

Far from having done the forces any harm, it is the universal opinion of those in a position to judge that typhoid inoculation saved thousands of lives in the war and many thousands of pounds, which would have had to be paid to widows and dependents but for the protection afforded by this procedure.

The extent of this saving may be appreciated by contrasting the relative incidence and mortality from the enteric

V. 192

fevers among the British troops engaged, respectively, in the South African War and the Great War (Table 1).

TABLE 1.—RELATIVE INCIDENCE AND MORTALITY FROM THE TYPHOIDS AMONG BRITISH TROOPS IN SOUTH AFRICAN WAR AND GREAT WAR

	Total Cases	Total Deaths	Case Mortality, per Cent.	Mean Annual Strength	Annual Incidence, per Cent. of Strength	Annual Death Rate, per Cent. of Strength
South African War, 1899-1902.....	57,684	8,022	13.9	208,226	105.0	14.6
The Great War, 1914-1918.....	20,139	1,191	5.9	2,000,000 Approx.	2.35	0.139

Yours very sincerely,

T. H. GOODWIN.

For comparison with the concluding paragraph of the letter from General Goodwin, it is now possible to present statistics of typhoid in the United States Army over a long period of time. The ratios per thousand for admissions and deaths for the years 1880 to 1919, inclusive, are incorported in Table 2.

TABLE 2.—ADMISSIONS AND DEATHS FROM TYPHOID AMONG WHITE ENLISTED AMERICAN TROOPS, 1880-1919 (RATIOS PER THOUSAND)

Year	Admissions	Deaths	Year	Admissions	Deaths
1880	2.88	0.56	1900	10.21	1.67
1881	3.78	0.72	1901	6.74	0.84
1882	6.60	0.72	1902	7.70	0.95
1883	10.21	1.46	1903	5.86	0.47
1884	6.72	1.43	1904	5.00	0.35
1885	3.37	0.41	1905	3.55	0.30
1886	4.25	0.98	1906	6.50	0.98
1887	7.50	0.69	1907	4.08	0.32
1888	3.45	0.64	1908	3.42†	0.31
1889	5.75	0.62	1909†	3.70†	0.25
1890	5.48	0.55	1910	2.38	0.18
1891	4.11	0.48	19111	0.39‡	0.09
1892	6.62	0.56	1912	0.76	0.03
1893	6.91	0.67	1913	0.09	....
1894	6.51	0.87	1914	0.10	0.04
1895	4.61	0.58	1915	0.07	....
1896	6.04	0.74	1916	0.57	0.07
1897	5.55	0.30	1917§	0.48§	0.04
1898	147.58*	15.26*	1918§	0.31§	0.05
1899	21.77*	2.52*	1919§	0.48§	0.06

* Spanish-American War and Philippine insurrection.
† Vaccination against typhoid was started as a voluntary procedure in 1909, and continued voluntary until the latter part of 1910.
‡ Vaccination against typhoid compulsory entire year and thereafter.
§ World War period.

The admission rates for the army during this period are shown graphically in the accompanying chart.

The following special points brought out in the chart are worthy of note: the high admission rates obtaining during the Spanish-American War; the decline in rates that began when vaccination was initiated as a voluntary measure in 1909; the sharp decline that occurred and continued after this measure was made compulsory for the army in the latter part of 1910, and the very low rate prevailing throughout the World War when approximately 4,000,000 men were mobilized.

Table 2 and the chart are based on ratios per thousand of strength. The actual numbers as to admissions and deaths for typhoid in the United States Army during the period from April 1, 1917, to Dec. 31, 1919, inclusive, are: cases, 1,529; deaths, 227. These cases occurred in a total of approximately 4,000,000 men mobilized. Reduced to a basis of one year's service for each individual mobilized, the total number of men exposed for each year was 4,128,478.

This office will be very glad to have the information contained in this letter used in such manner as may be deemed appropriate by you.

M. W. IRELAND, M.D., Washington, D. C.
Major-General, U. S. Army;
Surgeon General.

APPEAL BY NATIONAL MUSEUM FOR PARASITOLOGIC SPECIMENS

To the Editor:—The importance of parasitology is made more patent each year. We feel, however, that much greater progress might be achieved if physicians the country over were to put forth a concerted effort in this field. With this end of view, we now ask the medical fraternity to save all parasitologic specimens that may come within reach, and to send these to us for the collection of the U. S. National Museum. By thus centralizing such material, it will be possible for specialists to determine with greater accuracy the limits of variation of species, their geographic distribution, and their relative abundance in various parts of the country. These collections, like all other government collections, will be available for study by any qualified student who may wish to pursue work in this line, and we will be pleased to extend laboratory facilities so far as available to such students.

Specimens transmitted should be placed in 70 per cent. alcohol and can then be shipped in a mailing case by post; or if the sender will notify us that he has a specimen, we will send a mailing tube with return frank for its shipment. Specimens should be accompanied by data giving the host, whether human or otherwise, the age of the host when possible, and a statement how the specimen was obtained. If secured by means of an anthelmintic, the character of the drug used should be mentioned. The label should also bear the town or place where the specimen was obtained, and the name of the sender, and the package should be addressed to the U. S. National Museum, Washington, D. C. Material thus transmitted to us will be properly labeled with the name of the donor, and we will be pleased to send the identification of the specimens provided by our specialist, if the donor cares for it.

We feel that a few years of such cooperative effort on the part of the medical fraternity should furnish a wonderful amount of material, which will help gain a more complete concept of the rôle played by parasites than has been possible by the scattered and fragmentary data available in the past.

C. D. WALCOTT, Washington, D. C.
Secretary, United States National Museum.

AMERICAN MEDICAL AID FOR RUSSIA

To the Editor:—I cannot but feel that the enclosed letter, written to his colleagues by the head of the Public Health Service of Soviet Russia, Dr. N. Semashko, tells its own story of desperate need and couragous effort better than I can do it, and I pray the courtesy of your columns for its wider circulation.

Allow me most deeply and warmly to thank you for the great help you have given us.

Russia is in deep trouble this year, as you know. Twenty-five million people will suffer hunger, millions will die of starvation. As is always the case in social catastrophes, the first to suffer are the children. The cry of the little children carries far beyond the famine-stricken plains of the Volga. And disease follows famine. Fortunately we have mastered the cholera epidemic, but typhoid and typhus threaten us this winter.

Famine has brought disintegration to our medical work, even in Moscow. Our losses in the medical profession itself are heavy on the epidemic front. We were strangulated by the blockade, but we introduced sanitary standards unknown under czarism. Since 1918 we have multiplied by ten the number of state supported hospital beds in Russia. We have created new machinery to combat tuberculosis and the venereal diseases and to safeguard mothers and babies. With tremendous labor we have laid the foundations for the enlightened care of our people, and it hurts to see that in this year of our bitter trial, the work of our hands must suffer collapse.

The American Relief Administration is feeding large numbers of our starving children. For this humanitarian aid we send our deepest gratitude to the American people. But I beg you to give us medical help. Send us drugs—malaria infests the Volga Valley, and, aggravated by hunger, malaria has a terrible malignancy. Send us food for our hospitals. Send us surgical and medical instruments, laboratory equipment, ambulances.

I am convinced that your appeal for help will find a broad response among the American people. Sanitation in Russia is a human problem, not a political problem. We labor to raise Russia out of the darkness of

the past, and this aim should be clear to the mind and close to the heart of all enlightened people.

In this assurance, I wish you success in your work.

N. SEMASHKO, M.D.

Dr. Semashko asks America for the kind of medical aid which we possess in such peculiar richness—hospital equipment. He has asked this office to furnish a 500-bed hospital for general work, as well as for the care and study of typhus, in the city of Moscow. The needs of that other terrible epidemic front in the Volga Valley have been published by Capt. Paxton Hibben, secretary of the Russian Commission of the Near East Relief, who has recently returned from a 5,000 mile journey through Russia. Fifty base hospitals in the Volga Valley would not touch one another's elbows. The United States Congress has just granted $20,000,000 for the relief of Russian distress; it is less well known that the Italian government, acting in conjunction with the Italian Red Cross, has signed an agreement with the soviet representative to open eighteen medical and food stations in the famine district.

It has seemed to me that we of the American profession would respond with a generous and ready hand to the needs of our Russian colleagues, if such were understood. Since 1914, Russia has been cut off from medical books and current medical literature, and the professional contacts which are dear to all of us. Her medical men and women, and her scientific workers and laboratory experts now ask for publications to be distributed to three centers, Moscow University, Petrograd University, and the Academy of Science. They ask for books, original studies, reprints concerning medicine and public health, and files or single issues of scientific and medical journals issued since 1914. Gifts of these, or money for their purchase, and gifts for the outfitting of the American hospital in Moscow, will be gratefully received by this office. And I personally beg for a generous and immediate response.

MICHAEL MICHAILOVSKY, M.D.,
103 Park Avenue, New York.
Representative in America of the
Public Health Service of Russia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

GRIFFITH'S COMPOUND MIXTURE

To the Editor:—Enclosed find the published formula for Griffith's Compound Mixture, which I have used in rheumatic cases. I should like to prepare it myself and wish you would furnish the modus operandi. I believe it would be somewhat cheaper if I make it myself, and perhaps you could add to its medicinal value.

E. F. BENNER, M.D., Salfordville, Pa.

ANSWER.—The published formula of Griffith's Compound Mixture says:

A powerful alterative—Composed of Guaiac, Stillingia, prickly ash, turkey corn, colchicum, black cohosh, sarsaparilla, salicylates of the alkalies, iodid of potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from rheumatism, gout, lumbago, neuralgia, sciatica, etc.

This formula—typical of the old shotgun nostrum—contains no quantities and means nothing.

TREATMENT OF SYPHILIS

To the Editor:—I have as patients a man and wife both giving a ++ Wassermann reaction. The woman has a rash, and both have apparently suffered with syphilis for over two years. The woman has been pregnant about four or five months. I should like to know whether arsphenamin should be given, or would it be advisable to use mercury until after the confinement? Have you any other suggestions relative to treatment?

B. R. J.

ANSWER.—It is possible to make only a tentative diagnosis of syphilis from the facts given. The presence of a rash, if it is a generalized rash, is hardly likely to be evidence of syphilis two years after infection. If the diagnosis is made on a ++ Wassermann reaction alone, one must be very sure of the Wassermann reaction. If the diagnosis is certain, a pregnant woman should be treated vigorously with arsphenamin and mercury. The fact of the pregnancy is no contraindication; it is, rather, an indication for more vigorous treatment on account of the child. It is, of course, assumed that the woman's kidneys will stand the treatment. Kidney disturbance is the only contraindication that is more likely to arise in a pregnant woman than in the case of another patient.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 7. Sec., Dr. Harry C. De Vighne, Juneau.
CALIFORNIA: Los Angeles, Feb. 13-16. Sec., Dr. Charles B. Pinkham, 342 Flood Bldg., San Francisco.
KANSAS: Topeka, Feb. 14. Sec., Dr. Albert S. Ross, Sabetha.
NATIONAL BOARD OF MEDICAL EXAMINERS. Written examination in Class A medical schools, Part I, Feb. 15-17; Part II, Feb. 20-21. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia.
NEW HAMPSHIRE: Concord, March 9-10. Sec., Dr. Charles Duncan, Concord.
NEW YORK: Albany, Buffalo, Syracuse and New York City, Jan. 23-26. Asst., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.
VERMONT: Burlington, Feb. 14. Sec., Dr. W. Scott Nay, Underhill.
WYOMING: Cheyenne, Feb. 13-15. Sec., Dr. J. D. Shingle, 206 Citizens Bank Bldg., Cheyenne.

Oregon July Examination

Dr. Urling C. Coe, secretary, Oregon State Board of Medical Examiners, reports the written and practical examination held at Portland, July 5-7, 1921. The examination covered 12 subjects and included 102 questions. An average of 75 per cent. was required to pass. Of the 27 candidates examined, 16 passed and 11 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
National Homeopathic Medical College	(1894)	75
State University of Iowa College of Medicine	(1921)	82.8
Minneapolis College of Physicians and Surgeons	(1906)	82.8
Columbia University	(1908)	76
University of Oregon	(1921)	80, 81, 81.1, 81.1, 82.3, 84.3, 84.6, 84.9, 86.6, 87.2, 87.6
Nippon Special Medical School	(1910)*	80
FAILED		
Homeopathic Medical College of Missouri	(1900)	46
Southwest School of Medicine and Hospital	(1916)	45
Creighton University College of Medicine	(1921)	76.8†
University of Oregon	(1921)	72.5, 76.8†, 80.1†
Osteopaths	47.5, 55.8, 60.6, 63.1,	77.1†

* Graduation not verified.
† Fell below 75 per cent. in more than one subject.

New Jersey June Examination

Dr. Alexander MacAlister, secretary, New Jersey State Board of Medical Examiners, reports the written examination held at Trenton, June 21-22, 1921. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 21 candidates examined, 20 passed and 1 failed. Sixty-three candidates were licensed by reciprocity. One candidate was licensed by endorsement of credentials. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University	(1920)	77.6, 81.2, 83.5
Hahnemann Medical Coll. and Hosp. of Philadelphia	(1920)	79.7, 81.8, 82.3, 83.2, 83.7, 91
Jefferson Medical College	(1919) 86.1, (1920)	81.6, 84, 84.7, 86.1
Temple University	(1918)	77.8
University of Pennsylvania	(1917) 76.8, (1920)	82.7, 84.3, 86.7
University of Moscow	(1917)*	82.7
FAILED		
University of Heidelberg	(1893)*	58.7

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Howard University		(1911)	Virginia, (1915) Georgia
University of Georgia		(1916)	Georgia
American College of Medicine and Surgery		(1905)	Illinois
College of Physicians and Surgeons, Chicago		(1902)	Illinois
Hahnemann Medical Coll. and Hosp. of Chicago		(1910) (1915)	Nebraska
Tulane University		(1895)	Virginia
College of Physicians and Surgeons, Baltimore		(1904) (1913)	Maryland
Johns Hopkins Univ.		(1901)	New York, (1902), (1919, 2) Maryland

Boston University	(1917)	Mass.
Tufts College Medical School	(1897)	New York
Barnes Medical College	(1898)	Missouri
University Medical College of Kansas City	(1896)	Missouri
University of Nebraska	(1918)	Nebraska
Dartmouth Medical College	(1882)	Illinois
Columbia University	(1913), (1914), (1919)	New York
Cornell University	(1916), (1919)	New York
Fordham University	(1919), (1920)	New York
Long Island College Hospital	(1897), (1919, 2), (1920, 2)	New York
Medical Department of the University of the City of New York	(1895)	New York
New York Homeopathic Medical College and Flower Hospital	(1915), (1918), (1919)	New York
New York University Medical College	(1896), (1898)	New York
University and Bellevue Hospital Medical College	(1916), (1919, 4), (1920, 2)	New York
Jefferson Medical College	(1896), (1916), (1917) (1919) North Carolina	Penna.
Temple University	(1911), (1916)	Penna.
University of Pennsylvania	(1917) Delaware, (1919)	Ohio
Woman's Medical College of Pennsylvania	(1906)	Penna.
Tennessee Medical College	(1903)	Tennessee
Vanderbilt University	(1919)	Tennessee
Medical College of Virginia	(1914) North Carolina, (1918)	Virginia
University of Virginia	(1919)	Virginia
McGill University	(1917)	New York
National University, Athens	(1897)	Illinois
University of Budapest	(1912)*	Michigan
University of Naples	(1888)	Penna.

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Pennsylvania		(1918)	Nat. Bd. Med. Ex.

* Graduation not verified.

South Dakota July Examination

Dr. H. R. Kenaston, director, Division of Medical Licensure, South Dakota State Board of Health and Medical Examiners, reports the oral, written and practical examination held at Deadwood, July 19-20, 1921. The examination covered 15 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 9 candidates examined, 8 passed and 1 failed. One candidate was licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery		(1914)	87.9
College of Physicians and Surgeons, Chicago		(1904)	84.5
Northwestern University	(1920) 88.7,	(1921)	84.6
Indiana University		(1912)	90.8
University of Kansas School of Medicine		(1916)	89.7
University of Michigan Medical School	(1911) 87.3,	(1916)	86.8

College	FAILED	Year Grad.	Per Cent.
Georgetown University		(1903)	69.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Jefferson Medical College		(1904)	Minnesota

West Virginia October Examination

Dr. W. T. Henshaw, secretary, West Virginia Public Health Council, reports the oral and written examination held at Clarksburg, Oct. 11-12, 1921. The examination covered 9 subjects and included 90 questions. An average of 80 per cent. was required to pass. Of the 12 candidates examined, 6 passed and 6 failed. Sixteen candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
George Washington University		(1921)	90
University of Maryland		(1920)	88
Jefferson Medical College		(1921)	86
University of Virginia		(1921)	92
National University, Athens		(1920)*	87
University of Rome		(1916)*	90

College	FAILED	Year Grad.	Per Cent.
National Medical University		(1909)	54
Hospital College of Medicine		(1903)	69
Barnes Medical College		(1907)	60
Medical College of Virginia			39
National University, Athens	(1915)* 57,	(1921)*	72

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Atlanta College of Physicians and Surgeons		(1902)	Georgia
Chicago College of Medicine and Surgery		(1908)	Illinois
University of Louisville Medical Department		(1917)	Kentucky
Tulane University		(1909)	Texas
College of Physicians and Surgeons, Baltimore		(1891)	Virginia
University of Maryland	(1910) North Carolina,	(1914)	S. Carolina
Missouri Medical College		(1890)	Missouri
National University of Arts and Sciences		(1918)	Missouri
Eclectic Medical College, Cincinnati		(1918), (1920)	Ohio
Jefferson Medical College		(1916)	New Jersey
Western Pennsylvania Medical College		(1900)	Penna.
Western Reserve University		(1920)	Ohio
Meharry Medical College		(1918)	Kentucky
University of Tennessee		(1915)	Oklahoma

*Graduation not verified.
† Undergraduate.

Book Notices

POLYCYTHAEMIA, ERYTHROCYTOSES AND ERYTHRAEMIA (VAQUEZ-OSLER DISEASE). By F. Parkes Weber, M.A., M.D., F.R.C.P. Cloth. Price, 21 shillings net. Pp. 148. London: H. K. Lewis & Co., 1921.

This book is a revised version of the author's critical review in the *Quarterly Journal of Medicine* for October, 1908, together with a supplement containing what is one of the most valuable features—a short résumé of some additional publications by various authors, notes on unpublished cases, and remarks in conclusion. It is a careful and comprehensive study especially worthy of praise because of the painstaking analysis of reported cases and also because of the judicial fairness with which discordant views of the many writers on this subject are discussed. There is no exploitation of extravagant theory, no sign of riding some wild hobby. Weber still inclines to the belief that the disease known as polycythemia rubra is due to an overactivity of the bone marrow in its erythroblastic function. He aims to exclude conditions such as secondary polycythemia, due to vascular obstruction or that associated with primary hypertension or nephritis. Erythrocytosis, he says, is as distinct from the true disease as is leukocytosis from leukemia. It is greatly to be desired that there may be more monographs of this type. While the views expressed and the conclusions reached may be materially changed in the future, such a book remains as the basis for all subsequent work on the subject treated. It seems almost undignified in dealing with a book written in such a scholarly manner as is this one to call attention to two trivial matters that seem to us to be faults. The use of "like" for "as" has good authority; it may come into general usage. But it grates on our ears to read that "he found an increase of urobilin in the urine like Türk." Also the free employment of the parenthesis becomes a disconcerting annoyance, often by its intrusion interrupting the reader's continuity of thought. The omission of unnecessary synonyms and inconsequential qualifying words, phrases and clauses, the more frequent substitution of the comma for the parenthesis, and the relegation of many of the references to the bottom of the page would help to avoid this difficulty. To have from five to thirty parentheses () on nearly every page is a blemish.

THE EVOLUTION OF MODERN MEDICINE. A Series of Lectures Delivered at Yale University on the Silliman Foundation in April, 1913. By Sir William Osler, Bart., M.D., F.R.S. Cloth. Price, $6. Pp. 259, with illustrations. New Haven: Yale University Press, 1921.

The great war cut short the revision by the author of the proofs of these lectures and he did not take up the task again. The final preparation of the proofs for publication was made by Fielding H. Garrison, Harvey Cushing, Edward C. Streeter and Leonard L. Mackall—none more competent could have been selected—and they have carried out the plans of the author, as shown in the earlier galleys, with such care and reverence that nothing has been lost of the freshness, charm and force characteristic of the writings of the "best balanced, best-equipped, most sagacious and most lovable of all modern physicians." In addition to the introduction there are chapters on Greek medicine, medieval medicine, the renaissance and rise of anatomy and physiology, the rise and development of modern medicine, and the rise of preventive medicine. Osler himself spoke of the lectures as "an aeroplane flight over the progress of medicine through the ages." Naturally the survey proceeds rapidly, but a golden thread, easily followed, connects the work of the outstanding men and the epochal developments, and there is an amazing variety of detail with striking characterizations, apt quotations and helpful references. The touch of the master scholar and master writer is on every page. The illustrations, carefully selected by Osler from the rich stores at his command, are of extraordinary interest. By text and illustration the evolution of medicine is traced with admirable clearness "through a series of upward steps—a primitive stage, in which it emerged from magic and religion into an empirical art, as seen among the Egyptians and Babylonians; a stage in which the natural character of disease was recognized and the importance of its study as a phenomenon of nature was announced; a stage in which the structure and functions of

the human body were worked out; a stage in which the clinical and anatomical features of disease were determined; a stage in which the causes of disorders were profitably studied, and a final stage, into which we have just entered, the application of the knowledge for their prevention" (page 220). The book has a direct appeal to all that are interested in the evolution of medicine and science, and the growth of truth in general. It should be read widely because there is clarification, stimulus and uplift in it. Medical students and physicians should not fail to study it because here is inspiration that will enlarge their vision and make them better students and physicians.

GRUNDLAGEN ÄRZTLICHER BETRACHTUNG. Ein führung in Begriffliche und Konstitutions-Pathologische Fragen der Klinik für Studierende und Ärzte. Von Dr. Louis R. Grote, Privatdozent, Oberarzt der Medicinischen Universitätsklinik in Halle A. S. Paper. Price, 36 marks. Pp. 81, with 2 illustrations. Berlin: Julius Springer, 1921.

To one who is searching for facts which will aid him in the pursuit of the practice of medicine, i. e., the art of healing, or who is interested in the philosophical consideration of what disease is, what factors are determining disease in one and health in another, or why some develop arteriosclerosis or hypertension and others diabetes, the perusal of this series of five articles will be a disappointment. But there are always students who, as the author puts it, evince an interest in the processes of nature in general, to whom the whys and wherefores are always interesting, and for these the book is intended. A definition of life is sought for from many quarters; a determination of what the normal actually is, and what constitutes pathologic states, the rôle of personal predisposition to states of disease, the interreaction of various factors and the causation of disease, what determines the "constitution of the patient," and the importance of personal variants, such as congenital anomalies, the rôle of heredity with special reference to the mendelian law of heredity, Lamarckism, etc., are gone into in more or less detail. Finally, a chapter on the fundamentals of therapeutics is given. The author points out in a general way the various indications for treatment, vital, symptomatic and causal; the combating of physiologic and nonphysiologic stimuli, and the bases of serotherapy and organotherapy. There are numerous references to ancient and modern authors in the realm of philosophy, science and medicine. To one with a speculative turn of mind, the book should prove a stimulus to thought.

PROSTITUTION IN THE UNITED STATES. Volume I — Prior to the Entrance of the United States into the World War. By Howard B. Woolston, Ph.D. Publications of the Bureau of Social Hygiene. Cloth. Price, $2.50. Pp. 360. New York: The Century Company, 1921.

This volume, the first of a two volume study of prostitution in the United States issued by the Bureau of Social Hygiene, brings the subject up to the entrance of the United States into the World War. In the introduction the editor states that the plans for the study were made before we entered the war, and that the greater part of the field work reported was done in the first half of 1917. The compilation and publishing of the book was necessarily delayed. Following the war it was evident that new ideas of governmental responsibility and control in this field had developed. The second volume will deal with the effect of the World War on prostitution in the United States. Dr. Woolston has collected, digested and summarized a large amount of information, most of which is familiar to students of this subject through the reports of the various committees and investigators in the last ten years. Historically, it is interesting as regarding the tremendous change in public morals that has taken place during the last decade.

MORRIS'S HUMAN ANATOMY. A Complete Systematic Treatise by English and American Authors. Edited by C. M. Jackson, M.S., M.D., Professor and Director of the Department of Anatomy, University of Minnesota. Sixth edition. Cloth. Price, $10 net. Pp. 1507, with 1164 illustrations. Philadelphia: P. Blakiston's Son & Co., 1921.

The revision of this well-known textbook has been thorough; new illustrations have been added, and the bibliographies have been brought up to date. Special attention has been paid in this edition to the glands of internal secretion, now presented by Prof. J. F. Gudernatsch.

Medicolegal

Validity of Requiring Renewal of Certificates of Unfitness for Vaccination

(Spofford v. Carlton et al. (Mass.), 131 N. E. R. 314)

The Supreme Judicial Court of Massachusetts says that the respondents, who were the school committee of the city of Haverhill, adopted a regulation which provided that:

> Every pupil in attendance at the public school, or who may hereafter be in attendance at such school who has been given a certificate by a physician stating that such pupil is not a fit subject for vaccination, shall be required to renew such certificate once in two months, provided, however, that in the case of such pupil who fails to renew such certificate as required, such pupil will not be excluded from school until a period of two weeks after failure to renew such certificate.

The regulation is not as matter of law so unreasonable or arbitrary as to be invalid, nor is it discriminatory. The intention of the legislature is clear that the exemption provided for by the statutes on the presentation of a certificate by a physician that a child is an unfit subject for vaccination is not to cover absolutely the entire period of the child's attendance at a public school, but the certificate is limited to the period when his physical condition is such that in the opinion of the certifying physician he is an unfit subject for vaccination.

The respondents as the school committee of the city were given "general charge and superintendence of all the public schools." The scope of this power was sufficiently broad to promote and secure not only the best interests of the pupils, but also the general welfare of the community in the management of schools. The respondents had authority, notwithstanding the certificates which the petitioner in this case presented, and which had been accepted when his children were admitted, to exclude them subsequently if an epidemic of smallpox had appeared. It was true that this condition did not exist. But the uniform policy of the commonwealth requires general vaccination as a preventive measure against the infection and spread of one of the most dangerous and highly contagious diseases with which mankind is afflicted. It is common knowledge that a public school composed of pupils from all sections of the city may become at any moment a source of danger to the public health unless the laws relating to vaccination are strictly enforced. For these reasons, the petition in this case for a writ of mandamus to compel the respondents to admit the petitioner's children to the public schools, without their compliance with the regulation quoted above, must be dismissed.

Duration of Prohibition Against Disclosures

(McCaw et al. v. Turner et al. (Miss.), 88 So. R. 705)

The Supreme Court of Mississippi, Division A, in affirming a decree upholding a will, says that the heirs at law of the testatrix sought to have the will set aside on the ground of undue influence and mental incapacity. The ruling of the court below assigned for error was the exclusion of the testimony of a physician relative to the alleged mental disability of the testatrix, he having treated her therefor during her lifetime. Section 3695 of the Code of 1906 provides that:

> All communications made to a physician or surgeon by a patient under his charge or by one seeking professional advice are hereby declared to be privileged, and such physician or surgeon shall not be required to disclose the same in any legal proceeding, except at the instance of the patient.

It was contended by the plaintiffs that the power to waive the privilege conferred on the patient by the statute does not die with him, but may be exercised after his death by parties standing in a personal or representative relation as regards such patient. But the supreme court holds that the prohibition of Section 3695 survives the death of the patient, and cannot be waived by the patient's heir, executor or administrator.

The statute in plain and unambiguous language, the court says, limits the right to waive the privilege to the physician's patient, and the right must be so limited by the courts, unless the manifest reason and obvious purpose of the statute would be sacrificed by adhering to a literal interpretation of its

V. 192

language. The manifest reason and obvious purpose of the statute is to enable a patient to disclose his infirmities to his physician in order that the physician may prescribe for his disease without fear that his feelings will be shocked or his reputation tarnished by their disclosure by the physician without his consent, which purpose will not only not be sacrificed by giving the words of the statute their usual and ordinary meaning, but, on the contrary, will be sacrificed unless its words are given that meaning. The statute does not limit the privilege to the life of the patient, nor does it confer on his heirs or devisees who may quarrel over his property the right to tarnish his reputation by causing his physician to disclose his infirmities.

Location in Cities of Hospitals for the Treatment of Tuberculosis

(Cook et al. v. City of Fall River (Mass.), 131 N. E. R. 346; San Diego Tuberculosis Association v. City of East San Diego et al. (Calif.), 200 Pac. R. 393)

The Supreme Judicial Court of Massachusetts, in affirming a decree for the defendant in the case of *Cook et al* v. *City of Fall River*, says that this was a bill in equity to enjoin the erection in what was termed the Highland district of a hospital for the treatment of tuberculosis, on the ground that the hospital would constitute a nuisance. The master to whom the case was referred found:

> Experience has demonstrated that there is no real danger from a well-conducted hospital or sanatorium and there is no valid reason for fear in regard to it. Whatever danger of infection there may be will be no greater to the neighborhood in the Highland section than there would be wherever said hospital would be located, and, if there is any danger to be expected from patients traversing the streets in traveling to and from the hospital, that danger would be the same wherever the hospital would be located.

On these facts the judge could not enjoin the defendant without virtually nullifying the statute which requires the city to maintain a tuberculosis hospital within its limits, as the objections raised by these petitioners applied with at least equal force to every other available site. Hospitals for contagious diseases must be established and maintained for the protection of the general public; and it is not to be assumed in advance that such a hospital, well equipped and managed under the supervision of public health boards, will be a nuisance.

The Supreme Court of California says that the plaintiff in the second case sought an injunction against the defendants attempting to enforce a city ordinance declaring every hospital for the treatment of persons afflicted with contagious or infectious diseases to be a nuisance, making the maintenance of any such hospital within the limits of the city a misdemeanor, making its maintenance a separate offense for each day it was maintained, and providing for punishment by fine or imprisonment for every offense. Was the ordinance a reasonable one in its essential feature, that of prohibiting within the city any hospital for the treatment of contagious or infectious diseases? Such prohibition is very different from regulation, and can be justified only on the ground that such a hospital, no matter how well conducted, is a menace to the public peace, morals, health or comfort. That a well-conducted, modern hospital, even one for the treatment of contagious and infectious diseases, is not such a menace, but, on the contrary, one of the most beneficent of institutions, needs no argument. There is not the slightest danger of the spread of disease from it, and this is the only possible ground on which objection could be made to it. This court has no hesitation in holding an ordinance prohibiting the maintenance anywhere within a city of an institution so necessary in our modern life and so beneficent to be wholly unreasonable and invalid. This being so, the enforcement of the ordinance by the city officials can be enjoined. It was evident in this case that the enforcement of the ordinance would cause substantial and irreparable injury to the plaintiff's property, and that against the threat of its enforcement by the repeated prosecutions which the ordinance permitted, the plaintiff had no adequate remedy; wherefore, the plaintiff was entitled to have the enforcement of the ordinance enjoined, and a judgment sustaining a demurrer to its complaint is reversed.

Society Proceedings

SOUTHERN MINNESOTA MEDICAL ASSOCIATION

Annual Session, held at Mankato, Dec. 5 and 6, 1921

The President, DR. W. J. MCCARTHY, Madelia, in the Chair

Causes of Failure of Operations for Chronic Appendicitis

DR. CHARLES J. ROWAN, Iowa City: The results of operation for chronic appendicitis are not satisfactory. These patients should have more careful examination and often more prolonged observation. No patient should be regarded as having typical chronic appendicitis unless a history of a former characteristic acute attack is obtainable. Extra care and consideration should be used before advising operation in neurotics, especially those with colitis or visceroptosis. More exploratory incisions should be made in preference to the muscle splitting incision, and always in atypical cases. The exploration should not end with the discovery and removal of a diseased appendix. Believing that a considerable amount of trouble complained of after operation may be due to adhesions, we shall try out picric acid instead of iodin in the preparation of the site of operation.

Factors in the Health of Older Children

DR. E. J. HUENEKENS, Minneapolis: The importance of food, especially the vitamins, has been greatly overestimated. Sunshine is a very vital factor. Rest, especially in the Goldthwaite position, is a great factor for proper posture as well as general health. Environment is the most vital of all. The training of parents, psychotherapy and the proper treatment of functional nervous diseases have been much neglected.

Treatment of Empyema

DR. A. C. BAKER, Fergus Falls: Acute empyema is best treated by aspiration; by catheter drainage, being careful to prevent pneumothorax, and by rib resection. If a cure is not effected in three months, the case should be considered chronic and treated accordingly. Certain types are chronic from the beginning. Irrigation with surgical solution of chlorinated soda is the treatment of choice. For the cavity which does not obliterate, pulmonary decortication after preliminary irrigation is the most conservative procedure. If success attends these efforts, a plastic operation is indicated. Tuberculous empyema not secondarily infected should not be drained and should be aspirated only for a considerable accumulation of fluid. The closure of bronchial fistulas is a requisite to healing. Bronchial fistulas are the only contraindications to irrigation with surgical solution of chlorinated soda. Physiologic solution of sodium chlorid shall be used until closure of the fistula has been secured. Most sinuses close eventually after obliteration of chronic cavities. Preliminary sterilization reduces infection, amount of shock, extent of operation, and mortality, and in many cases removes the necessity of any operation whatsoever.

Premenopausic Uterine Prolapse

DR. ERNEST Z. WANOUS, Minneapolis: In dealing with a prolapse during the premenopausic period, when the organs of reproduction are still active, the disturbed circulation of the uterus and ovaries must be restored to normal, thereby reestablishing the chemistry of the internal secretions. The child-bearing function should not be destroyed.

Primary Carcinoma of Lung

DRS. ROBERT I. RIZER and HAROLD C. HABEIN, Minneapolis: From the pathologic standpoint, three types of carcinoma of the lung should be considered, arising from (1) the bronchial epithelium; (2) bronchial mucous glands, and (3) alveolar epithelium. The roentgen ray in our experience has not been of material aid in the diagnosis. Individuals with a primary carcinoma of the lung live from three to twenty-seven months after the appearance of the first symptom. Death is usually due to rupture of the vessels, thrombosis, pulmonary edema,

asphyxia and cachexia. No one symptom or sign is diagnostic of primary carcinoma of the lung; but when a patient has dyspnea, deep dull chest pain with hemoptysis, and possibly some abnormal chest findings, malignancy of the lung should be considered.

Chloroform Anesthesia

DR. P. F. HOLM, Wells: The difference of safety in administration between chloroform and ether is probably far less than commonly stated, as numerous deaths are indirectly caused by ether that are not so classified in the statistics. Chloroform has good qualities that should not be overlooked, and I cannot agree that chloroform should be banished entirely as an anesthetic. Many physicians who deprecate the use of chloroform do not know how to administer it properly. I do not wish to convey the idea that chloroform can displace ether; but, given a suitable case, chloroform properly administered has a place that no other anesthetic can fill quite so well.

Thyroid Therapy

DR. R. G. ALLISON, Minneapolis: In twenty-seven cases of exophthalmic goiter without complications which were subjected to roentgen-ray treatment, without subsequent operation, twenty-four of the patients are well. The treatment has been complete for nearly eight months. The remaining three patients came to operation. Of these three, one was definitely improved before operation, and the other two were normal a few months after operation. Of six cases of postoperative hyperthyroidism, which had relapsed, one showed a definite cure, five showed no improvement. Of three cases of thyrotoxic adenoma, none showed any response to roentgen-ray therapy. The only patient who was operated on during an increasing basal metabolic rate died an operative death. We feel that the results obtained in the earlier cases might have been attained more quickly if more intensive therapy had been used. No bad results or complications which we could attribute to the treatment have occurred in any cases of our series. Only with the closest cooperation between the clinician and the roentgenologist can satisfactory results be obtained.

Pyelitis

DR. A. E. SOHMER, Mankato: The prompt cure of pyelitis depends on an early diagnosis, and prompt recognition of the source of infection. Focal infection is the most frequent cause, and is often followed by secondary colon bacillus infection. In children, pyelitis is a frequent occurrence. Calculus recurrence is often due to a persistent pyelitis. Treatment in acute cases consists of rest, bland diet, and alkalization of the urine. Chronic cases require elimination of the primary infectious focus, alternating with the use of hexamethylenamin and citrates at intervals of from five to seven days. Lavage of the kidney pelvis with silver nitrate and mercurochrome alternately is indicated in persistent cases.

Treatment of Duodenal and Gastric Ulcers

DR. A. C. STRACHAUER, Minneapolis: All uncomplicated, acute ulcers, and the majority of ulcers recognized at an early stage should be treated medically. The medical treatment sorts the ulcers into medical and surgical cases. Medical failures obtain in the type of ulcer requiring surgery. The complication of an accompanying chronic cholecystitis, cholelithiasis or appendicitis makes the ulcer case a surgical one. No type of surgical intervention is to be performed on the stomach or duodenum unless the ulcer can be demonstrated at the time of operation.

Retroperitoneal Lipomas

DRS. J. C. MASSON and E. J. HORGAN, Rochester: In a review of the literature it was found that most cases of retroperitoneal tumor are diagnosed at operation. The most striking fact about the tumor is the absence of symptoms due to it. In only four of our twelve cases in which the growth was degenerating were there acute symptoms. In the remainder the presence of the tumor, variously diagnosed as of renal origin, ovarian cyst, etc., was the main indication for interference. Pain was severe in only one case. Three patients had ascites, but none had signs of obstruction. The age of the patients varied from 40 to 72 years, the average being 55. The average duration of symptoms was three years. The tumor is usually ovoid and movable, with a multiglobular surface and a doughy consistency. Its position varies with its origin, the most usual source being the perirenal fat. Operation for removal of the growth may be very difficult if the tumor has displaced important vessels at the root of the mesentery, at the hilum of the kidney, or above the spine, and especially if degeneration has taken place. In cases of large growths a midline incision is indicated, and an attempt should be made to remove the entire mass, since recurrences are common.

Nontuberculous Lung Infections

DR. H. M. CONNER, Rochester: These cases are usually diagnosed tuberculosis or chronic bronchitis. In most cases the patient develops the condition during the cold months and in northern climes. The principal symptoms are cough and expectoration over a prolonged period, either constant or in spells of days, weeks or months. There may or may not be fever, loss of weight, lessened appetite, strength and energy, but these are not marked. Principal physical findings are moist râles in one or both bases. The roentgenograms usually show very little.

Partial Rectal Prolapse, with a Suggestion as to Treatment

DR. W. A. FANSLER, Minneapolis: The patient is placed in a Sims or squatting position, and then by straining and manipulation the exact extent of the prolapse is determined. The patient is then placed in the knee chest position for treatment. An anoscope is introduced, and with the inrush of air the mucous membrane flattens out over the muscular coat in approximately its normal relations, leaving practically no folds. Four sites are now selected equidistant around the circumference of the bowel and carefully cleansed with hydrogen peroxid, iodin and alcohol. The distance internal from the anus that these sites are chosen depends on the extent of the prolapse. In the average case a point a little above the hemorrhoidal area is taken. At each of these sites from 5 to 10 minims (0.3 to 0.6 c.c.) of 5 per cent. quinin and urea hydrochlorid solution is injected into the space between the mucous and muscular coats. The patient is then allowed to lie down for a few minutes and is then ready to leave the office. It is necessary that the bowels be kept soft and straining prevented, and for this liquid petrolatum is given in sufficient quantity. The treatment is repeated every fifth or seventh day until a cure is effected. The action produced by the quinin and urea hydrochlorid is the calling forth of a fibrous plastic exudate which is later partially absorbed and partially replaced by dense scar tissue which binds the two coats together.

Recognition of the Nasal Ganglion Syndrome

DR. R. A. BARLOW, Rochester: Irritation of the sphenopalatine ganglion so closely simulates the repeated paroxysms of sneezing seen in hay-fever that some cases have been diagnosed incorrectly. Sphenopalatine disturbances may be classified as two types: (1) the neuralgic and (2) the sympathetic. Patients with neuralgic disturbances complain of severe lower half headaches. Patients with sympathetic disturbances have persistent sneezing, lacrimation, and hay-fever-like attacks, which are not dependent on season or climate. The technic for the treatment of the condition is very simple. The nasal ganglion is first cocainized by passing an applicator with cotton dipped in 10 per cent. cocain into the nose to the posterior end of the middle turbinate. This is withdrawn and a second applicator, dipped in sterile water, is inserted to the same spot and allowed to remain about one minute. This procedure rules out functional disturbances. If the patient has not had any effect by the second day, he is again cocainized. The second applicator is this time dipped in 50 per cent. silver nitrate solution instead of sterile water. This is allowed to remain in position about thirty seconds. This treatment is applied to both sides and is usually followed by severe attacks of sneezing. About the third day the treatment is repeated. As a general rule, two treatments are sufficient.

V. 192

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

November, 1921, **29**, No. 4

Development of Pharynx and Aortic Arches of Turtle; Fifth and Pulmonary Arches of Mammals. R. F. Shaner, Boston.—p. 407.
Digestive Activity of Mesenchyme. A. Ehrlich Sarcoma Cells as Object. V. Danchakoff, New York.—p. 431.

American Journal of Public Health, Chicago

December, 1921, **11**, No. 12

American Public Health Association, Past, Present and Future. M. P. Ravenel, Columbia, Mo.—p. 1031.
Relations of Bacteriology to Public Health Movement Since 1872. E. O. Jordan, Chicago.—p. 1042.
History of Public Health in Cuba During Past Fifty Years. J. LeRoy, Havana, Cuba.—p. 1048.
Development of Board of Health and Its Relation to Public. F. G. Curtis, Newton, Mass.—p. 1058.
Public Health Activities and Medical Profession. G. C. Ruhland, Milwaukee.—p. 1062.
Report of Committee on Drugs and Nostrums. H. J. Knapp.—p. 1073.
Methods of Cooperation Between Municipal, State and Federal Officials on Pharmaceutical Preparations. W. S. Hubbard.—p. 1077.
Sanitation of Bath Houses at Public Bathing Beaches. S. De M. Gage and A. E. Griffin.—p. 1080.

Annals of Surgery, Philadelphia

December, 1921, **74**, No. 6

Local, Regional and Spinal Anesthesia. G. L. Labat, Rochester, Minn.—p. 673.
Malignant Degeneration of Benign Tumors of Thyroid Gland. J. Speese and H. P. Brown, Jr., Philadelphia.—p. 684.
*Traumatic Chylothorax. S. H. Watts, University, Va.—p. 691.
Anomalous Portal Vein: Its Surgical Dangers. H. O. Knight, Galveston, Texas.—p. 697.
*Malignant Neoplasia in Gallbladder. J. A. H. Magoun, Jr., and K. Renshaw, Rochester, Minn.—p. 700.
*Perforating Gastric and Duodenal Ulcer. N. Winslow, Baltimore.—p. 721.
*Persistence of Gastric Ulcer After Gastro-Enterostomy. E. Klein, New York.—p. 740.
Jejunal Diverticula: Two Cases. E. L. Hunt and P. H. Cook, Worcester, Mass.—p. 746.
Radium Treatment of Carcinoma of Bladder. B. S. Barringer, New York.—p. 751.
*Hemostasis in Suprapubic Prostatectomy by Method of "Lost Tampon." H. Fischer, New York.—p. 768.
Defects of Patellar Border. T. W. Todd and W. C. McCally, Cleveland.—p. 775.
Traumatology of Sesamoid Structures. A. H. Bizarro, London, England.—p. 783.

Traumatic Chylothorax.—Watts reports the case of an insane patient who shoved a knife into the suprasternal notch as far as he could, moving it crosswise and up and down. The thoracic duct was cut and the chyle poured out into the pleural cavities although the condition was not recognized until after the patient's death when a thorough dissection of the neck region was made.

Malignant Disease of Gallbladder.—Twenty-nine of the thirty-eight patients whose histories are reviewed by Magoun and Renshaw and on whom cholecystectomies were performed had had symptoms referable to the gallbladder for more than one year; nine had had symptoms for less than one year. If the condition is operable cholecystectomy should be performed; cholecystostomy should only be performed when besides the tumor there is a severe infection of the gallbladder, or as a path for the introduction of radium. Cholecystostomy for stones had been performed elsewhere in five of the eighty-four cases, indicating that malignancy may develop in gallbladders that have been drained. Jaundice is a contraindication to operation when a definite diagnosis of malignancy of the gallbladder has been made. Complications may be due to perforation of the gallbladder, as happened in one case in the series, to empyema, or to extension to the neighboring viscus by continuity, contiguity, or metastasis. Seven patients on whom a cholecystectomy had been performed were alive six years after operation, a percentage of 8.3 cures. The diagnoses in these cases were: gallstones in three, gallbladder disease in three, and gastric carcinoma in one (in this case adhesions had developed between the gallbladder and the pylorus). The operative procedures were: cholecystectomy in five; cholecystectomy, excision of adjacent liver tissue, and choledochotomy in one; cholecystectomy and gastro-enterostomy in one (besides the malignancy there were gastric and duodenal ulcers).

Perforating Gastric Ulcer.—Twenty-nine cases are reported by Winslow for the purpose of urging operation before rupture; fourteen patients recovered; 15 died. It did not seem to make any material difference what type of operation was chosen. The causes of death were septicemia, generalized peritonitis, toxemia, subphrenic abscess and pneumonia. Of the twenty-nine cases, twenty-three gave histories of stomach disturbances extending over a period of from a few weeks to many years. In most of these cases the history was typical of ulcer. If perforating ulcer is to be avoided and life preserved, Winslow says the profession must bring the ulcer case to operation before rather than after rupture. Leaving out of the question that carcinoma of the stomach is supposed to be preceded in at least 60 per cent. of the cases by ulcer and the other debilitating disorders incident to ulcer, the fact alone that 50 per cent. of the cases of perforating ulcer of the stomach or duodenum are doomed, should arouse the profession to the seriousness of this complication. These ulcers may be benefited symptomatically by medicinal agents, but there is no assurance that it is ever cured.

Persistence of Gastric Ulcer After Gastro-Enterostomy.—A case is reported by Klein in which the persistence of gastric symptoms was due to an unhealed prepyloric ulcer following a well performed gastro-enterostomy. The symptoms yielded to partial gastrectomy.

Hemostasis After Suprapubic Prostatectomy.—After the prostate has been removed Fischer catches the edges of the wound with a few Allis' clamps. A strip of iodoform gauze is tightly packed into the cavity until all its recesses are well filled. The projecting part of the tampon is cut off. If the hemorrhage is controlled, this tampon is removed and used as a pattern for the size of the final tampon. The final tampon is secured by a stout silk ligature fastened around its middle and its whole mass is introduced into the cavity. Before the tampon is definitely placed, the prostatic cavity is once more carefully cleaned of all blood coagula which may have accumulated. After introduction of the gauze pack the wound edges are tightly sutured with strong plain catgut over the tampon, the silk thread being let out between two sutures and through the suprapubic wound. The prostatic cavity is thus completely shut off from the interior of the bladder. A drainage tube is fastened in the bladder in such a way that it does not touch the bladder fundus, and the bladder and the abdominal wound are tightly closed around it. After three or four days the sutures have become loose and the tampon can be withdrawn by pulling on the silk string, the drainage tube being removed at the same time.

Archives of Surgery, Chicago

January, 1922, **4**, No. 1

*Studies in Experimental Traumatic Shock. IV. Evidence of Toxic Factor in Wound Shock. W. B. Cannon, Boston.—p. 1.
*Lymphatic Origin of Cholecystitis, Choledochitis and Associated Pancreatitis. E. A. Graham and M. G. Peterman, St. Louis.—p. 23.
Classification and Mechanism of Fractures of Leg Bones Involving Ankle. A. P. C. Ashhurst and R. S. Bromer, Philadelphia.—p. 51.
*Studies in Exhaustion: III. Emotion. G. W. Crile, Cleveland.—p. 130.
Structural Results of Prostatectomy with Reference to Methods of Enucleation. F. Hinman, San Francisco.—p. 154.
Relaxed Pelvic Floor; End Result in Sixty Cases. E. C. Cutler and C. H. Jameson, Boston.—p. 175.

Experimental Traumatic Shock.—Aside from the experimental evidence presented by Cannon, which resulted in the building up of a theory of traumatic toxemia as a cause of shock, there are also clinical observations which extended over approximately the same period as the experimental studies, and which, quite independently, led to the same conclusion. The whole question of the nature of shock is discussed at length.

Lymphatic Origin of Cholecystitis.—Graham and Peterman maintain that in many cases, probably in a majority, cholecystitis represents a direct extension to the wall of the gallbladder from a liver already inflamed. The hepatitis usually begins and is most marked in the interlobular, or periportal,

tissues; and it is apparently due to infection brought to the liver by the portal vein, and, more rarely perhaps, by the hepatic artery. A pericholangitis then occurs, and because of the intimate anastomosis between the lymphatics of the intrahepatic and extrahepatic biliary systems a direct extension into the wall of the gallbladder takes place as well as into the common duct and the pancreas. From the antecedent hepatitis, therefore, a cholecystitis, choledochitis and pancreatitis can be understood to occur by way of the lymphatics. The authors admit, however that some cases are doubtless hematogenous in origin, some perhaps are contact infections from bacteria carried down in the bile and a few may have originated in an ascending infection of the common duct through its lymphatics or have been due to a chance contact of a gallbladder with an inflamed contiguous organ.

Emotions May Cause Exhaustion.—Crile asserts that his researches have shown that the emotions drive the organism with extreme intensity; that, like trauma or exertion, emotion may drive the organism within the limits of normal response, or so overwhelmingly as to suspend the normal functions and reduce the individual to a state of complete, cold prostration. In other words, emotion may cause exhaustion; it may cause shock. The histologic lesions produced in the brain, liver and suprarenals by emotion are described.

Colorado Medicine, Denver

December, 1921, **18**, No. 12

Removal of Astragalus in Old Cases of Infantile Paralysis. R. G. Packard, Denver.—p. 267.

Capsulotomy Versus Intracapsular Method in Senile Cataract Extraction. H. M. Thompson and J. W. Thompson, Pueblo.—p. 271.

Endocrinology, Los Angeles

November, 1921, **5**, No. 6

*Case of Exophthalmic Goiter with Rapid Improvement Following Oral Administration of Fresh Ox Suprarenal Gland. S. Shapiro and D. Marine, New York.—p. 699.

*Testicular Substance Implantation. L. L. Stanley, San Quentin, Calif.—p. 708.

Importance of Visualizing Established Scientific Data with Reference to Size of Body Cells and Their Chemical Supplies in Circulating Blood. G. Luden, Rochester, Minn.—p. 715.

*Some Novel Effects Produced by Stimulating Nerves of Liver. W. B. Cannon, J. E. Uridil and F. R. Griffith, Boston.—p. 729.

*New Views as to Morphology of Thymus Gland and Their Bearing on Problem of Function of Thymus. J. A. Hammar, Upsala, Sweden.—p. 733.

*Experimental Diabetes Insipidus and Genital Atrophy. P. Bailey and F. Bremer, Boston.—p. 761.

Extirpation and Transplantation of Thymi in Larvae of Rana Sylvatica. M. M. Hoskins, Richmond, Va.—p. 763.

Endocrine Therapy in Cases of Low Blood Pressure. G. H. Hoxie, Kansas City, Mo.—p. 773.

Suprarenal Gland in Exophthalmic Goiter.—The case of exophthalmic goiter reported by Shapiro and Marine presented several unusual features in addition to the classical manifestations of profound asthenia, emaciation, tachycardia, thyroid hyperplasia, tremor and exophthalmos. The more important of these were: periods of pyrexia for which no assignable cause could be found; very low systolic blood pressure; purpura with prolonged bleeding time; decreased platelet count; swollen and bleeding gums and a history of profuse menstrual hemorrhage and a rapid gain in weight and muscular strength, rise in blood pressure and decrease in bleeding time associated with administration of fresh ox suprarenal gland, but without any noteworthy changes in the pulse rate, exophthalmos or thyroid gland. Very rapid and striking improvement in the general nutrition occurred during the administration of fresh ox suprarenal cortex, in 5 gm. daily doses by mouth rather than during the administration of desiccated suprarenal gland. The observation suggests a possible relative functional insufficiency of the suprarenal cortex as one of the underlying factors in exophthalmic goiter. Larger doses, especially of whole fresh suprarenal gland, caused nausea and vomiting, probably from direct irritation of the gastric mucosa by epinephrin. Evidence, both experimental and clinical, is now rapidly accumulating that the suprarenal gland, and particularly its cortical portion, plays an essential and fundamental rôle in the etiology of exophthalmic goiter.

Testicular Substance Implantation.—More than 300 persons have been treated by Stanley in San Quentin prison with animal testicular material. These were not selected but were taken in order of their application. After the first twenty or thirty prisoners had received the glands and reported among their fellow prisoners the good results they had obtained, many applications were received. The material used was taken from a ram, goat, or boar which had reached maturity. Strips of testicle are placed in a paraffin syringe and the material forced out is injected into the abdominal wall, about 1 gm. in each of four places. Among those treated were cases of neurasthenia, senility, asthma, paralysis agitans, epilepsy, dementia praecox, diabetes, locomotor ataxia, impotency, tuberculosis, paranoia, gangrene of toe, atrophied testicles, rheumatism, and, in fact, many other illnesses of chronic character not amenable to treatment. From these experiments Stanley says it may be said that animal testicular substance injected into the human body does exert decided effects. Some of those receiving this treatment claim that their eyesight is improved, the appetite is increased, that there is a feeling of buoyancy, a joy of living, an increased energy, loss of tired feeling, increased mental activity and many other beneficial effects. Eight patients with asthma have been helped, and four claim that they have had no recurrences. In four cases of acne, the eruptions have been markedly decreased. This procedure has been carried out in about sixteen mental cases, ranging from neurasthenia to manic-depressive insanity. Most of the subjects showed some change. One man with paranoia has apparently lost his delusions of persecution, improved physically, and works very well. Almost all the subjects report increased sexual activity.

Stimulating Nerves of Liver.—Stimulation of the hepatic nerves will cause an increased rate of the denervated heart, an effect appearing later than the similar adrenin effect and lasting for a longer time. Stimulation of the hepatic nerves will cause a rise of blood pressure. It does not occur on closure of the hepatic artery and vein; it occurs on hepatic stimulation though all abdominal viscera have been removed except the liver, and, unlike stimulation of splanchnic blood vessels alone, it long outlasts the period of stimulation. None of the known or supposed products of hepatic activity—glucose, urea, catalase—when injected into the blood stream have the effects produced by exciting the hepatic nerves. Watery extracts of the liver are ineffective. Liver extracted by boiling acid and nearly neutralized augments the heart rate, but so do extracts of other organs. The efficiency of hepatic stimulation in causing a faster heart rate, when meat is being digested, is not seen if an animal is digesting carbohydrate, or fat, or has been fed for several days on either of these foodstuffs. On the other hand, stimulation is more effective after amino-acids have been injected into the intestines. The tentative conclusion is drawn that the effects noted are probably not due to a true internal secretion produced by the liver, but to a discharge from its cells of amino-acids, or amines, which are sympathomimetic in character.

Functions of Thymus.—Hammar asserts that "thymic asthma" due to pressure and "mors thymica" should be sharply differentiated. There is no reliable evidence that the latter is due to abnormality of the thymus. The Hassall's corpuscles (C. H.) and the lymphoid cells (l. c.) vary independently. C. H. excitatory and depressor as well as lymphoid cells excitatory and depressor factors can be recognized. Lymphoid cells excitatory and depressor factors affect the lymphoid tissues throughout the body. The C. H. excitatory factors are of a toxic nature. The function of the thymus is antitoxic.

Experimental Diabetes Insipidus.—Bailey and Bremer present only a preliminary report on their work. A lesion, even an extremely minuite one, of the parinfundibular region of the hypothalamus provoked with certitude (in thirteen of thirteen dogs) a polyuria which appeared in the first two days. According to the extent of the lesion it varied from a transient one lasting from six to eight days to an apparently permanent polyuria. In the latter case other important symptoms were present, e. g., cachexia "hypophyseoprivia," genital atrophy and adiposity. The permanent polyuria realized has all the characteristics of diabetes insipidus in man, e. g., possibility of concentration when intake of fluids is restricted, when pituitary extract is injected subcutaneously or in the

presence of fever, excessive polyuric reaction to the administration of chlorides, and absence of theobromin effect. The experimental diabetes insipidus does not depend on a disturbance of a supposed nervous or vascular regulation of the kidney. It may be induced in animals whose kidneys have previously been denervated and when present persists with the same characteristics after denervation of the kidneys. Lesion of the tuber cinereum has produced in two dogs a cachexia "hypophyseopriva" with genital atrophy, and in two other dogs an insidiously developing adiposogenital dystrophy. The integrity of the pituitary was in each case verified histologically. Glycosuria was an inconstant result of the lesion and seemed probably to depend on the state of nutrition of the animal. The situation of this important nervous center and the minuteness of the lesion necessary to provoke characteristic symptoms probably explains the results of operations on the hypophysis in both young and adult animals. There is no evidence at present that the lesion acts by the intermediation of the pituitary.

Georgia Medical Association Journal, Atlanta

December, 1921, **10**, No. 19

Goiter: Study of Eight Hundred Consecutive Thyroid Patients. E. G. Jones, Atlanta.—p. 821.
Cretinism: Early Diagnosis. G. L. Echols, Milledgeville.—p. 825.
*Magnesium Sulphate Poisoning in Children: Two Cases. W. W. Anderson, Atlanta.—p. 826.
Case of Chorioepithelioma. D. C. Elkin.—p. 830.
Sacral Anesthesia. H. L. Barker, Carrollton.—p. 833.
Local Tonsillectomy; Different Technic. M. Equen, Atlanta.—p. 834.
Significance of Emaciation in Physical Diagnosis. J. T. Moore, Sycamore.—p. 836.
Combined Use of Roentgen Ray and Radium in Treatment of Malignant Disease. J. J. Clark, Atlanta.—p. 839.
Dead-Beat. J. R. Robbins, Siloam.—p. 843.

Magnesium Sulphate Poisoning.—Anderson reports the cases of two children who had a progressive muscular myopathy, possibly a progressive muscular dystrophy, and intestinal parasites, *Uncinaria americana* in one case, and *Tenia nana* in the other. Both children were given 2 ounces of saturated solution of magnesium sulphate. Following this initial dose each child had four or five large, loose, watery stools. Breakfast was omitted the following morning and at 6, 8 and 10 a. m. one child was given 8 grains of oleoresin of male fern. At the same hours her sister was given 8 grains of thymol. At 12 noon both were given 1½ ounces of saturated solution of magnesium sulphate. Following this second dose of magnesium sulphate there was no purging. Ten hours following the second dose of magnesium sulphate both children were in a profound state of collapse. They complained of intense abdominal pain, of being hot, were nauseated and vomited coffee ground vomitus almost continuously, so that no food or liquid could be retained by mouth for forty-eight hours. They would sink into a comatose stage with eyes rolled up under half closed lids, scarcely perceptibly breathing, slowly and deeply. At all times, however, they could be aroused, could tell how they felt, and their mentalities were clear throughout. Their extremities were icy cold, their pulses could not be palpated at the wrists for twenty hours and their heart sounds were very weak and rapid. There was no jaundice, no spasms or convulsions. The abdomen showed slight general rigidity, not localized. There was marked suppression of urine and feces for about twenty hours, after which both urine and feces were passed in bed, so that a careful examination was not made. High colon irrigations of physiologic solution of sodium chlorid and proctoclysis of 5 per cent. glucose were begun, after which the bowels eventually moved, the vomiting ceased, and the children could retain a little strong hot coffee at first after about forty-eight hours. The pulses became palpable at the wrists, respirations began to approach normal and the stuporous condition slowly passed away, so that within four or five days the children were in the same condition as on admission and could retain the usual hospital diet.

Journal of Experimental Medicine, Baltimore

January, 1922, **35**, No. 1

*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. VI. Immunity Reactions. P. K. Olitsky and F. L. Gates, New York.—p. 1.
*Frequency of Bacillus Influenzae in Nose and Throat in Acute Lobar Pneumonia. E. G. Stillman, New York.—p. 7.
Heterogenic Serum, Age and Multiplication of Fibroblasts. A. Carrel and A. H. Ebeling, New York.—p. 17.
*Relation of Treponema Pallidum to Lymphoid Tissues in Experimental Syphilis. L. Pearce and W. H. Brown, New York.—p. 39.
Agglutination with Aid of Centrifuge. Influence of Temperature on Absorption and Flocculation. F. L. Gates, New York.—p. 63.
*Effect of Pulmonary Congestion on Ventilation of Lungs. C. K. Drinker, F. W. Peabody and H. L. Blumgart, Boston.—p. 77.

Immunity Reactions in Influenza. — The experiments described by Olitsky and Gates furnish additional evidence of the pathogenic character and the virtual identity of the various strains of the active agent derived from the nasopharyngeal secretions of influenza patients with which the transmission experiments in rabbits have been carried out. The active material has been shown to be of antigenic nature, so that rabbits are protected from the effects of a second inoculation. The experiments indicate also the antigenic identity of the various strains of the active agent with each other and with *Bacterium pneumosintes*. Finally, the experiments show that the protection may persist for fourteen months which is the longest period yet tested.

Frequency of Influenza Bacillus in Nose and Throat in Pneumonia.—Cultures were made by Stillman from the throats of 1,077 normal individuals, and influenza bacilli were demonstrated to be present in 332, or 30 per cent. The result of cultures made from the nose in a much smaller number of normal individuals indicate that hemoglobinophilic bacilli are rarely present, even in persons suffering from coryza, laryngitis, etc. In marked contrast with these findings are the results obtained in a series of cultures made from the nose and throat of patients suffering from lobar pneumonia. In thirty-one of these cases, cultures were made from the throat, and in eighteen cases, influenza bacilli were isolated. In thirty-five cases of pneumonia, cultures were also made from the nose and influenza bacilli were isolated from this source in nine. In certain other cases influenza bacilli were isolated from the suptum when they could not be demonstrated in the cultures from the nose or throat. Among the entire thirty-five cases, influenza bacilli were isolated from at least one of these three sources in thirty, or 85 per cent. of the cases.

Experimental Syphilis.—The experiments reported on by Pearce and Brown demonstrate that experimental syphilis is not confined to the site of local inoculation but that lymphogenous dissemination of treponemas regularly takes place, and that during the course of this process organisms become localized in the lymph nodes and exist there indefinitely, irrespective of the occurrence of manifestations of disease. The intimate relation of *Treponema pallidum* to lymphoid tissue is an essential concept of syphilis of the rabbit, and from this point of view, the infection is primarily one of lymphoid tissue.

Effect of Pulmonary Congestion on Lung Ventilation.—Experiments were made by Drinker and his associates to determine whether pulmonary congestion interferes with the entrance of air into the lungs. Congestion was produced by compression of the pulmonary veins at their entrance into the left auricle, and the effect on the air entering the lungs was determined by means of a sensitive artificial respiration apparatus which delivered a constant volume of air with each inspiration. It is shown that intravascular blood can encroach markedly on the pulmonary air space. Although the methods used in these animal experiments do not resemble vital capacity measurements in man, their result is so definite that their applicability to clinical conditions may be considered. The similarity between the experiments described and certain conditions of cardiac decompensation, of which mitral stenosis if the best example, is pointed out.

Journal of Laboratory and Clinical Medicine, St. Louis

December, 1921, **7**, No. 3

*Blood Chlorids in Mercuric Chlorid Nephrosis. J. A. Killian, New York.—p. 129.
Clinical Diagnosis by Aid of Viscosimetry of Blood and Serum with Special Reference to Viscosimeter of W. R. Hess. M. E. Bircher, Rochester, Minn.—p. 134.

*Treatment of Acute Phosphorus Poisoning. H. V. Atkinson, Chicago. —p. 148.
Synthesis of Arsphenamin and Study of Some of Its Intermediate Derivatives. C. N. Myers, New York.—p. 151.
Note on Estimation of Blood Chlorids in Tungstic Acid Filtrates. J. B. Rieger, Detroit.—p. 166.
Methyl Alcohol in Arsphenamin. P. A. Kober, Nepera Park, N. Y. —p. 168.
Blood Counts with Oxalated Blood. N. Yarbrough, Charlotte, N. C. —p. 172.
Apparatus for Estimation of Catalase. W. H. Welker, Chicago.—p. 173.
Estimation of Inorganic Phosphorus in Blood Plasma by Method of Bell and Doisy. B. A. Myers and M. C. Shevky, San Francisco. —p. 176.
*Differential Staining of Granules in Diphtheria and Other Bacilli. A. G. Nicholls, Halifax, N. S.—p. 180.

Blood Chlorids in Mercuric Chlorid Nephrosis.—Two non-fatal cases of mercuric chlorid poisoning are reported by Killian. As the impairment of renal function due to kidney injury progressed, a diminution of concentration of the chlorids of the whole blood was noted. A return to normal of the functional capacity of the kidneys was accompanied by an increase in the blood chlorids.

Treatment of Acute Phosphorus Poisoning.—Atkinson asserts that liquid petrolatum given one hour after taking phosphorus furnishes complete protection against the onset of harmful symptoms. Liquid petrolatum is physiologically inert and acts entirely by reason of its physical properties. Its use is recommended in the treatment of phosphorus poisoning. Since liquid petrolatum is a harmless, and non-irritating cathartic, it may be used to delay absorption from the intestine in many, perhaps all cases, of poisoning.

Differential Staining of Granules in Bacilli.—The procedure used by Nicholls is as follows: Stain films fixed by heat with Neisser's staining fluid No. 1. This consists of methylene blue, 1 gm.; 96 per cent. alcohol, 20 c.c.; glacial acetic acid, 50 c.c., and distilled water, 950 c.c. This mixture is allowed to remain on the films for thirty seconds. Wash in water. Apply Gram's iodin solution for ninety seconds. Wash in water. Apply watery solution of saffranin T, 0.5 per cent., for thirty seconds. The granules appear black on a pink background. The picture is sharp, the contrast excellent. The method is applicable to any bacteria which contan granules, and shows up the granules in diphtheria bacilli exceptionally well.

Journal of Urology, Baltimore

September, 1921, **6**, No. 3

Final Report on Fractures of Spine in Relation to Changes in Kidney and Bladder Function. H. W. Plaggemeyer, Detroit.—p. 183.
Spinal Cord Bladders Occurring in Pernicious Anemia. Four Cases. H. L. Kretschmer, Chicago.—p. 195.
*Sagging Kidney as Factor in Persistence of Colon Bacillus Pyelitis. E. G. Crabtree and W. M. Shedden, Boston.—p. 207.
Removal of Ureteral Stone by Cystoscopic Manipulation. A. J. Crowell, Charlotte, N. C.—p. 243.

Sagging Kidney in Colon Bacillus Pyelitis.—Of thirty-one cases in which bilateral pyelography was undertaken in a search for the cause for pain after other possible causes for pain had been ruled out, ten showed pelvic abnormality, most often of the type to indicate sagging kidney with stasis. Such a degree of stasis would favor lodgment of the infection. Once lodged, stasis in other portions of the urinary tract bears evidence to what extent infection can persist unless the obstruction be removed. Crabtree and Shedden have patients cured over periods of seven and nine months after suspension operation on sagging kidneys followed by lavage with silver nitrate until the urine became bacteria free.

October, 1921, **6**, No. 4

Relation of Urology to Group Medicine. W. F. Braasch, Rochester, Minn.—p. 267.
*Focal Infections in Relation to Submucous Ulcer of the Bladder and to Cystitis. J. G. Meisser and H. C. Bumpus, Jr., Rochester, Minn.—p. 285.
*Seminal Vesiculitis: Study of One Thousand Cases. E. W. White and R. B. H. Gradwohl, Chicago.—p. 303.
Use of D'Arsonval Method of Coagulation Necrosis for Removal of Immense Intravesical Outgrowths of Prostate, Simple or Malignant. G. MacGowan, Los Angeles.—p. 321.
Papilloma of Ureter: Report of Case. H. Culver, Chicago.—p. 331.

Focal Infections and Bladder Ulcer.—Finding streptococci in the excised ulcers and the results of their experimental work leads Meisser and Bumpus to the belief that submucous ulcers of the bladder and other infections of the urinary bladder may be due to focal infections harboring streptococci, which have a selective affinity for the urinary tract.

Seminal Vesiculitis.—In all cases of long duration a trigon cystitis of varying degree was noticed by White and Gradwohl. Urethral symptoms are many, and in some cases extremely annoying. The abdominal symptoms associated with this condition are generally due to the peritoneal investment of the seminal vesicles and may simulate chronic appendicitis, urethral colic, ureteritis or stone. Owing to the close proximity of the bladder, abscess formations with perforations into this viscus have been reported; also rupture into the peritoneal cavity by way of the rectovesical culdesacs. Rheumatic symptoms were noted in about 5 per cent. Osseous formations, spiculae, etc., were definitely demonstrated in five cases. The sexual status in about 35 per cent. of cases was a negligible quantity, presenting every phase of derangement, from mild inaptitude to complete impotency. Atonic vesicles were noted in cases of ejaculatory praecox with mild degree of imperfect erection; whereas, cases of complete impotency invariably presented hard, fibrous sclerotic vesicles. Seminal vesiculitis in 75 per cent. of these cases was productive of marked loss of strength, nightly pollution and desire. Blood and pus were demonstrated in the ejaculated material. Painful orgasm, painful, incomplete erection, hemospermia, pyospermia, etc., are all common findings in seminal vesicle disease. The gonococcus was demonstrated in at least 80 per cent. of the cases. *Staphylococcus albus* and *Micrococcus catarrhalis* were also found, the latter in 10 per cent. of the cases. In 1 per cent. the *Bacillus coli-communis* was present. In 15 per cent. the so-called pseudodiphtheria bacillus was found. In all cases in which the gonococcus was found a positive gonorrheal complement fixation test of the blood was obtained. Treatment, either palliative or surgical, is not altogether successful. Seminal vesiculitis invariably indicates a thorough routine of vesicle and prostatic massage, urethral irrigations, applications, dilatations, caput treatments, etc. Long periods of rest are absolutely necessary. The results of surgical attack on the vesicles are frequently encouraging, and chiefly is this apparent in the gonorrheal, rheumatic and joint cases associated with infected vesicles of long standing, periodically infesting the blood stream with microbic organisms, also the cases of sclerotic or atonic vesicles of long duration, which are productive of changed symptoms at various intervals. Vasotomy in cases of recurrent epididymitis is frequently satisfactory and is resorted to in all cases. It does prevent recurrent swellings. Vasotomy is also performed in practically all cases of acute epididymitis, not that it hastens the course, but theoretically and practically treats the source of infection.

Maine Medical Association Journal, Portland

December, 1921, **12**, No. 5

Consideration of Pneumonia and Some of Its Complications. F. T. Lord, Boston.—p. 121.

Medical Record, New York

Dec. 17, 1921, **100**, No. 25

Intelligence, So-Called. M. P. E. Grossmann, New York.—p. 1057.
Medical Impressions of South America. W. Sharpe, New York.—p. 1062.
Treatment of Mental Aberrations and Undesirable Habit Formations by Psychotherapeutic Methods. C. Scheffel, Brookline, Mass. —p. 1066.
Some General Aspects of Digestive Disturbances. E. C. Prentiss, El Paso, Texas.—p. 1069.
*Simple and Relatively Safe Thyroidectomy. W. Van Hook, Chicago. —p. 1072.
*Some Unusual Features in a Localized Epidemic of Influenza. S. R. Blatteis and M. Brunner, Brooklyn.—p. 1074.
*Three Large Babies from One Mother. G. B. Fosque, Waco, Texas. —p. 1076.

Safe Thyroidectomy.—Van Hook advocates leaving small masses at each of the horns of the organ and, in addition, a thin layer of thyroid tissue attached to the posterior, untouched part of the gland capsule. These tissue masses are left by choice because their volume can be gaged rather accurately and because they are well provided with blood vessels and lymphatics, allowing for hypertrophy if that need

be brought about by demand of the organism. The parathyroids remain undisturbed. The current laryngeal nerves are best managed by the same artifice, leaving the region which they traverse entirely untouched.

Typhoid-Like Nature of Influenza.—Blatteis and Brunner describe an outbreak occurring at a girls' camp located in a summer mountain resort section of New York state. The cases presented a picture clinically lending itself readily to a tentative diagnosis of typhoid fever. Four cases appeared simultaneously and were placed at the very outset under the strictest isolation and disinfection. The subsequent occurrence of four other cases resulted from contact definitely traced. The definite diagnosis of influenza was made on the fifth day of the disease by the appearance of lung signs for the first time after the beginning of defervescence. This was true of all the cases and is noted as an unusual experience. Prostration was never a feature of any of the cases. The absence of expectoration during the entire period of the acute and convalescent stages was an unusual clinical observation. The strictly limited nature of the outbreak under conditions most favorable for its wide and rapid dissemination is exceedingly rare, but can be accounted for by the early, thorough and persistent use of isolation and disinfection.

Large Babies.—The three children reported on by Foscue weighed, respectively, 14 pounds 6 ounces; 13 pounds 2 ounces, and 13 pounds 8 ounces.

Dec. 31, 1921, **100**, No. 27

Polyneuritis of Infectious Origin. T. A. Williams, Washington, D. C. —p. 1145.
*Relationship of Alastrim to Smallpox. V. E. Watkins, La Romana, Santo Domingo.—p. 1149.
Eugenics and Euthenics in Their Relations to Tuberculosis Problem. S. A. Knopf, New York.—p. 1151.
Ages of Parents of Genius. C. L. Redfield, Chicago.—p. 1155.
Why Is Wassermann? C. T. Stone, Brooklyn.—p. 1158.

Alastrim: Milkpox: Amaas.—There has been prevailing in the West Indies, in epidemic form, an eruptive disease closely akin to smallpox. The condition has been described under the names alastrim, Kaffir milkpox, modified West Indian smallpox, varioloid-varicella, and amaas. The negroes from the British West Indies speak of it as "glass-pox." Eighty-five cases of the disease are the basis of Watkins' paper. Children appear to have a relative immunity. Males appear to be more prone to contract the disease than females. All the patients were negroes. The disease begins with general malaise, moderate fever and headache. No initial rash has been detected. The eruption begins invariably on the third day in the form of more or less numerous papules on the forehead, face, arms, and hands, which rapidly spread, but less profusely, over the entire body. These papules have the hard, shotty feel characteristic of the smallpox papule. The eruption follows the course of a typical smallpox eruption. The secondary fever has depended entirely upon the severity of the case. There has been no mortality. Watkins is convinced that the disease is a mild smallpox.

Minnesota Medicine, St. Paul

January, 1922, **5**, No. 1

Compulsory Health Insurance. W. A. Dennis, St. Paul.—p. 1.
Jaundice from Pancreatic Disease. C. H. Mayo, Rochester, Minn. —p. 6.
Roentgen-Ray Diagnosis of Gastro-Intestinal Diseases. N. J. Nessa, Sioux Falls, S. D.—p. 10.
*Potter Version. W. A. Coventry, Duluth.—p. 18.
*Blood Transfusion: Sodium Citrate Method. M. H. Hoffman, Minneapolis.—p. 24.
Treatment of Tuberculosis of Spine. W. H. Cole, St. Paul.—p. 34.
*Treatment of Pericarditis with Effusion. C. A. Hedblom, Rochester. —p. 40.
Dermatology and Internal Medicine. S. E. Sweitzer, Minneapolis.—p. 51.

Potter Version.—Coventry is convinced that the old method of doing versions is obsolete, and that the Potter method should be taught and demonstrated to students. It is not hard to do, and if done under proper conditions should not offer more complications or as many as using forceps. He does not advocate that Potter version be done in all cases arriving at the second stage, but there is a very definite indication for it in second stage labor, and it has very many adantages. Potter version, with proper kneading out of the perineum, does protect the maternal soft parts. The morbidity is decidedly lessened on account of the fact that the patient is saved the second stage of labor and the fatigue that goes with it, so that she is better able to resist infection.

Sodium Citrate Method of Blood Transfusion.—Hoffman's experience with citrated blood transfusions has been encouraging. He feels that the usefulness of this procedure is gradually enlarging with the increase in the simplicity of the technic. Though deleterious results and even several deaths have been reported to have followed transfusions, these generally were attributable to faulty judgment in the selection of cases, or to gross errors in the technic. He uses 20 c.c. of a 0.3 per cent. solution.

Pericarditis with Effusion.—Nine cases of pericarditis with effusion have been treated surgically at the Mayo Clinic. Four were cases of serous effusion, four purulent, and one hemorrhagic. The primary or associated disease conditions in the cases of serous effusion were (1) bronchopneumonia following thyroidectomy for exophthalmic goiter; (2) pulmonary tuberculosis, myelogenous leukemia, bilateral pleurisy with effusion, and ascites; (3) bilateral pleurisy with effusion, and (4) bilateral pleurisy with effusion and ascites, Pick's syndrome. In the first case aspiration of 120 c.c. of serous fluid produced a remarkable improvement in the whole clinical picture, and the patient progressed to a complete recovery. In the second case 220 c.c. of fluid was aspirated. The patient died the same day. Necropsy revealed bilateral pleural effusion and ascites and acute miliary tuberculosis involving the pericardium, lung, liver, and tracheobronchial lymph glands. Pericardiocentesis in the third case yielded 50 c.c. of serous fluid. The pleural cavities were aspirated on four occasions, and from 600 to 1,600 c.c. of fluid evacuated. The patient was discharged improved. He died at home six months later. In the fourth case, aspiration of 100 c.c. of pericardial fluid was followed by marked improvement. Later the pleural cavities were aspirated, and from 900 to 1,350 c.c. of serous fluid evacuated. *Bacillus tuberculosis* was demonstrated in the sputum. The patient was discharged essentially unimproved and died a few weeks later. Necropsy was not performed. The suppurative pericarditis in each of the three cases was due to a hemolytic streptococcus, in two, of the epidemic type. In one of these cases the pericarditis developed during convalescence following bilateral dissection of the submaxillary triangles for epithelioma of the lip. The patient died suddenly with symptoms of cardiac failure. Necropsy was not allowed. The second case was one of epidemic streptococcus bronchopneumonia, with bilateral empyema, following thyroidectomy for adenoma. The patient died with symptoms of septicemia. The necropsy revealed a bilateral empyema with involvement of the myocardium and liver, and with cellulitis of the chest wall.

Ohio State Medical Journal, Columbus

January, 1922, **18**, No. 1

Care of Patients After Abdominal Operations. A. H. Dunn, Chillicothe.—p. 5.
Management of Third Stage of Labor. W. E. Duffee, Columbus.—p. 12.
Intraspinous Treatment of Neurosyphilitic Patients. G. Marthens, Dayton.—p. 13.
Comparative Values of Complement Fixation Methods in Syphilis. H. D. McIntyre, E. A. North and A. P. McIntyre, Cincinnati. —p. 17.
Relation of Abdominal to Urologic Surgery. F. C. Herrick, Cleveland.—p. 26.
Rural Health Commissioner and His Problems. C. H. Skeen, Napoleon. —p. 30.
Rural Public Health Nursing. C. Dunbar, Chillicothe.—p. 33.
Infection of Lateral Sinus. E. W. Garrett, Cleveland.—p. 37.
Case of Extensive Lateral Sinus Thrombosis: Low Resection. H. M. Goodyear, Cincinnati.—p. 40.

Oklahoma State Medical Association Journal, Muskogee

December, 1921, **14**, No. 12

Interstitial Transplant of Round Ligaments for Restoration of Retroverted Uterus. McL. Rogers, Clinton.—p. 325.
Venous Thrombosis, Pulmonary Infarctions and Embolism as Sequence of Gynecologic Operations. F. M. Sanger, Oklahoma City.—p. 327.
Frequency of Acute Intestinal Obstruction Following Abdominal Operations: Importance of Early Recognition of Condition. F. H. McGregor, Mangum.—p. 333.

Gastric and Duodenal Ulcer. E. Lamb, Clinton.—p. 336.
Early Recognition of Gastric Carcinoma. A. W. White, Oklahoma City.—p. 340.
Tuberculin Therapy. F. H. McCarley, McAlester.—p. 344.
More Hospitals and Better Hospitals. C. M. Rosser, Dallas, Texas. —p. 345.
Differential Diagnosis of Pityriasis Rosea and Macular Syphilid. M. M. Roland, Oklahoma City.—p. 346.

Public Health Journal, Toronto

December, 1921, 12, No. 12

Some Aspects of Vital Statistics. A. C. Jost.—p. 529.
Popular Health Education. D. A. Craig.—p. 538.
Special Training for Public Health Nurses. E. K. Russell.—p. 543.
Social Aspects of Venereal Disease Problem. E. L. Moore.—p. 546.
Importance of Teaching Mothers Proper Breast-Feeding Technic. G. Smith.—p. 552.
Victorian Order of Nurses. E. Haslam.—p. 560.

Tennessee State Medical Association Journal, Nashville

December, 1921, 14, No. 8

Passing Away: Fading Out. W. K. Sheddan, Columbia.—p. 289.
Cataract Operations. W. W. Potter, Knoxville.—p. 296.
Sphenoidal Sinusitis: Report of Cases. J. McC. Hogshead, Chattanooga.—p. 301.
Diagnosis of Diseases of Kidney and Ureter. W. H. Cheney and F. B. Bogart, Chattanooga.—p. 305.
Acute Eczema and Its Management. J. M. King, Nashville.—p. 308.
Medical Jurisprudence from Standpoint of Physician. S. T. Rucker, Memphis, Tenn.—p. 312.

Virginia Medical Monthly, Richmond

December, 1921, 48, No. 9

Systemic Manifestations of Chronic Local Infections. F. H. Smith, Abingdon.—p. 493.
Medical Treatment of Systemic Manifestations of Chronic Local Infections. F. J. Wright, Petersburg.—p. 497.
Surgical Treatment of Systemic Manifestations of Chronic Local Infections. R. L. Payne, Norfolk.—p. 501.
Public Health Work in Lynchburg. S. H. Rosenthal, Lynchburg. —p. 504.
Necessity for Revision Hospitals of Nurse Training Course. J. A. Hodges, Richmond.—p. 507.
Interpretation of Laboratory Results. A. H. Straus, Richmond.—p. 513.
Some Phases of Pituitary Disease. Report of Cases. J. D. Willis, Roanoke.—p. 515.
Clinical Manifestations of Some Pituitary Disorders. H. R. Masters, Richmond.—p. 523.
High Lights in Venereal Disease Problem. M. Knowlton.—p. 529.
Diagnosis of Congestive Types of Glaucoma. H. H. McGuire, Winchester.—p. 532.
Dislocation of Head of Humerus Complicated by Fracture of Shaft at Anatomic Neck. C. S. White, Washington, D. C.—p. 535.
Symptoms and Diagnosis of Gallbladder Disease. C. C. Smith, Norfolk.—p. 536.
*Unusual Tumor of Ovary. W. E. Darnall, Atlantic City, N. J.—p. 540.
Tractment of Erysipelas. T. J. Tuder, Keokee.—p. 540.
Significance of Convulsions in Children. H. R. Fairfax, Bristol. —p. 541.

Fibroid of Ovary.—Darnall reports the case of a woman who was told that she had a fibroid tumor of the uterus and that roentgen rays would cure her. The result of the treatments she took produced a roentgen-ray burn over the abdomen as large as a saucer, which would not heal. Failing relief from all other sources, she finally accepted surgery. On entering the abdomen, a large round tumor, freely movable and without adhesions, was easily delivered. It was found to be attached by a pedicle to the left ovary with the elongated left tube stretching over it. This whole mass was removed without difficulty. The tumor weighed 25 pounds. After a careful study of this case, the deduction arrived at was that this tumor was originally a fibroid tumor of the ovary which grew to some size; that as time went on it began to degenerate from within, the injudicious treatments by the roentgen ray no doubt playing a prominent part in aiding the process or, in fact, starting it in the first place. The process of suppuration continued until finally liquefaction of the whole tumor occurred.

Wisconsin Medical Journal, Milwaukee

December, 1921, 20, No. 7

Industrial, State and Group Medicine. B. R. Shurly, Detroit.—p. 313.
Doctor for Age of Doubt. N. Andrews, Oshkosh.—p. 317.
Blood Transfusion. R. T. Cooksey, Madison.—p. 322.
Medical Practice in Wisconsin. W. H. Washburn, Milwaukee.—p. 324.
After-Care in Tonsillectomy. V. A. Chapman, Milwaukee.—p. 328.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

November, 1921, 44, No. 3

*Studies of Cerebral Function in Learning. No. III. Motor Areas. K. S. Lashley.—p. 255.
Psychologic Inquiry Into Nature of Condition Known as Congenital Word-Blindness. L. G. Fildes.—p. 286.
Proprioceptive Reflex and Clonus as Studied in Spinal Frog. K. Sassa. —p. 308.

Cerebral Function in Learning.—It is shown by Lashley that the albino rat is able to acquire somesthetic motor habits after destruction of the electrostimulable cortex and the caudate nucleus. Visuomotor and simple somesthetic motor habits which are acquired before the operation are retained after the destruction of these structures and probably after the section of occipitolenticular fibers. It is clear, therefore, that neither the cerebral motor areas nor the subcortical nuclei are directly concerned with the performance of learned activities. Combined destruction of the motor area and the caudate nucleus results in relatively permanent motor disturbances resembling hemiplegia in monkeys. Evidence is given that the difficulty is primarily in assuming new attitudes, and it is suggested that the primary function of the cerebral motor structures in the rat is the regulation of postural reflexes. Existing evidence does not seem to exclude such an explanation of the function of the stimulable cortex, even in man.

British Journal of Experimental Pathology, London

December, 1921, 2, No. 6

*Relationship of Blood Groups to Disease. J. A. Buchanan and E. T. Highley, Rochester, Minn.—p. 247.
*Dysentery Immunization in Rabbits by Oral and Subcutaneous Methods. S. Kanai, Tokyo, Japan.—p. 256.
Comparative Influence of Pure and Commercial Sugars and of Combined and Separate Sterilization on Bacterial Metabolism. C. G. L. Wolf.—p. 266.
Septicemia: Selective Deposition of Colon Typhoid Group of Bacteria in Fixation Abscesses. T. H. C. Benians.—p. 276.
*Study of Hemoglobinophilic Bacteria by Agglutination and Agglutinin Absorption. H. B. Maitland and G. C. Cameron.—p. 283.
*Relation Between Bile Salts and Hemolysis in Blood Stream. E. Ponder. —p. 289.

Relation of Blood Group to Disease.—Buchanan and Highley claim that there is no relationship between blood groups and malignancy as suggested by Alexander. Neither is there any relationship between blood groups and any disease in which sufficient data are available to justify a conclusion. The percentages originally presented by Moss are approximate and capable of considerable variation, without special significance. It is suggested that nationality be taken into consideration in the presentation of statistical studies of blood grouping.

Immunization Against Dysentery.—Kanai has succeeded in producing certain small degree of immunity in rabbits by the oral administration of *B. dysenteriae* (Shiga). The immunity so obtained is found to be far inferior to that produced by the subcutaneous inoculation of a phenolized vaccine administered in three doses of 50, 100 and 100 millions. The oral administration of large quantities of killed dysentery bacilli to rabbits is without effect on their general condition as judged by the body weight.

Study of Hemoglobinophilic Bacteria.—From the investigation of thirty-eight strains of *B. influenzae* obtained from hospital patients during nonepidemic periods the conclusions are drawn by Maitland and Cameron that nearly all strains of *B. influenzae* possess a serologic individuality as determined by agglutination and agglutinin absorption. Identical strains do occur, but they are not frequent. The antigenic value of strains varies. Some are extremely narrow. The serum prepared from such strains agglutinated little more than the homologous organism. The morphologic variations are marked, but do not correspond to variations in agglutination. Two or more serologic races may be present in the same patient. The results were in accord with those from other laboratories.

V. 192

Bile Salts and Hemolysis in Blood Stream.—Ponder states that the bile salts do not cause hemolysis when in the blood stream; nor does hemoglobinuria follow their injection. This is not due to their forming an absorption product with the albumins of the serum. Since they are colloidal in nature, they are with difficulty excreted by the kidney.

Dublin Journal of Medical Science

December, 1921, **4**, No. 22

Hysteria. A. Baldie.—p. 529.
Vaccine Therapy. J. Speares.—p. 544.
*Two Cases of Heart Disease, with Electrocardiograms. L. Abrahamson. —p. 562.

Quinidin Sulphate in Mitral Disease.—Abrahamson records a case of mitral disease with auricular flutter and 4:1 heart block and a case of auricular fibrillation treated by quinidin sulphate. In all 63 grains of quinidin were administered, in doses of from 3 to 6 grains, in capsules. The result was a slowing of the auricle, and the production of irregular flutter and a quickening of the ventricle. In view of the latter observation, Abrahamson regards it as being inadvisable to give quinidin to patients with a fast pulse.

Indian Medical Gazette, Calcutta

November, 1921, **56**, No. 11

*Kala-Azar: Diagnosis and Treatment. L. E. Napier.—p. 401.
*Thirty-Five Snake-Bite Cases and Their Treatment with Different Drugs. M. M. Hazra.—p. 404.
Septic Gastritis in Kashmir. M. J. Roche.—p. 408.
Thymol in Uncinariasis. P. Gupta and J. C. Guha.—p. 408.
Difficulties in Cataract Operations. H. Shanker.—p. 409.
Laboratory Records from Mesopotamia. F. P. Mackie.—p. 411.
*Hemorrhagic Meningo-Encephalitis in Anthrax: Report of Case. B. Shanks.—p. 418.
Report of Case of Superacute Edema of Lungs. R. Dayal.—p. 419.

Treatment of Kala-Azar.—For all patients who are at all debilitated Napier believes it to be a good plan, as a routine measure, to give them a digitalis mixture of some kind. He usually gives the following: Tincture digitalis, 5 minims; tincture nux vomica, 5 minims; tincture rhei compositius, 20 minims; tincture cardamom compositus, 15 minims; chloroform water, add ½ ounce. The mixture should be given for a few days before commencing antimony treatment and may be continued for the first few weeks of the treatment. After this, a mixture containing iron and quinin is useful, as malaria and kala-azar often coexist in the same patient, and a patient seems more liable to malarial attacks when he is recovering from kala-azar. If the patient, when first seen, is in a very weak condition, the antimony treatment is usually withheld for a short time, and under these circumstances an intramuscular injection of the following is given: turpentine, 1 part; creosote, 1 part; camphor, 1 part; olive oil, 2½ parts. This intramuscular injection is also very useful during the course of treatment when a patient, who at first responds well, commences to have a temperature rising daily to 100 F. without showing any sign of falling to normal. An injection will often be followed by a sharp rise to 103 F. with a rapid drop to normal where it will remain.

Treatment of Snake Bite.—Antivenene, Hazra asserts, is the specific remedy against the venoms of the cobra, krait and some of the viperines. It is capable of neutralizing venoms when present in the blood stream. The efficacy of this drug depends on the freshness of its preparation and the shortness of the interval between the bite and the administration of the drug. Intravenous injections are more prompt and reliable than other methods of administration, and this can surely save life even when toxic symptoms have developed to a considerable extent. If symptoms do not subside with one injection, repetition, at short intervals, is necessary. Potassium permanganate is a drug capable of neutralizing the venom locally. Subcutaneous injections are more efficacious than simple rubbing. The only trouble is that this method occasionally brings about local pain and swelling. Iodin is a reputable drug for viperine toxemia when thrombosis is developing in the system. Injection of this drug into the vein relieves pain and localized swelling and brings about speedy recovery. Its intravenous injection is free from trouble and danger. All remedies are hopeless after complete fixation of the venom in the brain and nerve cells.

Hemorrhagic Meningo-Encephalitis in Anthrax.—The case described by Shanks illustrates the characteristic and interesting hemorrhagic lesions which occur in the meninges and brain as a result of their infection with the bacillus of anthrax. In this case an anthrax bacteriemia resulted from a malignant pustule of the face, and gave rise to secondary lesions in the brain, intestines, and parotid.

Journal of Laryngology and Otology, Edinburgh

December, 1921, **36**, No. 12

Mechanism of Cochlea; Inertia of Contained Fluids. G. Wilkinson.—p. 537.
Operative Treatment of Ozena. M. Halle.—p. 567.
Ventricle (Larynx) Stripping Operation on Man. M. Vlasto.—p. 573.
Case of Revolver Bullet in Sigmoid Sinus. E. D. D. Dickson.—p. 575.

Medical Journal of Australia, Sydney

Nov. 12, 1921, **2**, No. 20

Pathogenicity of Demodex (Owen) in Human Being and of Other Parasites Producing Skin Diseases. H. Lawrence.—p. 419.
*Laboratory Diagnosis of Enteric Fever, Agglutination Response to Vaccines. S. W. Patterson, W. W. S. Johnston and F. E. Williams.—p. 425.
*Treatment of Typhoid Fever with Intravenous Vaccines. K. D. Fairley. —p. 428.
Two Interesting Cases. J. J. Woodburn.—p. 435.

Laboratory Diagnosis of Typhoid.—In the laboratory diagnosis of typhoid fever, Patterson and his associates have found blood cultures of great value in the first two or three weeks. In the first week cultures of *Bacillus typhosus* may be obtained in 100 per cent. of cases. In all cases of pyrexia of uncertain origin blood cultures should be made as soon as the patients come under observation. Cultures from the feces may be obtained during the first three weeks in a considerable proportion of cases. The routine culturing of the urine yields a small proportion of positive results, but often a positive result may be obtained from the urine culture alone. A positive diagnosis may be made by successive quantitative estimations of the agglutinating power of the serum, which shows a maximum about the end of the third week. All patients with typhoid fever should be examined during convalescence for the "carrier" state.

Treatment of Typhoid with Vaccines.—Fairley has found the intravenous administration of typhoid vaccine in appropriate doses of great value in the treatment of this disease, although vaccine treatment does not replace the ordinary routine treatment. Provided reasonable care is taken in administering the correct amount of vaccine at the initial injection, neither excessive febrile or focal reactions need be feared. The contraindications to this treatment are extremely few. Among the advantages claimed are the dramatic termination of the fever by crisis in 50 per cent. of cases following vaccine administration; the marked amelioration or complete abolition of the toxemic features of the disease in all the treated cases, and the absence of a fatal issue in the series of eight treated cases, the mortality rate in the control series being 14.3 per cent.

Nov. 19, 1921, **2**, No. 21

Medicine and Law. N. Macrossan.—p. 447.
Warmed Ether Anesthesia. C. Dyring.—p. 451.
Diphtheria and Its Prevention. F. V. Scholes.—p. 453.
Prevention of Diphtheria. M. Jacobs.—p. 455.
Malignant Disease of Head and Neck. L. M. McKillop.—p. 456.
Meningitis with Putrid Cerebrospinal Fluid Following Slight Trauma to Back and Operation for Adenoids and Large Tonsils. W. D. Upjohn.—p. 457.
Two Cases of Acute Abdominal Emergency. G. Owen.—p. 458.
Scroto-Urinary Sinus. T. S. Greenaway.—p. 459.

South African Medical Record, Cape Town

Nov. 26, 1921, **19**, No. 22

Endocrinology. W. T. A. Jolly.—p. 430.
*Means of Infection in Fly-Borne Disease. N. Faichnie.—p. 438.

Methods of Infection in Fly Borne Disease.—Faichnie contends that it is only the excrement of fecal bred flies that can cause enteric fever or bacillary dysentery to any great extent. These flies become infected in their larval stage, consequently the place where they are bred is a matter of far greater importance than the food they feed on. The most important source

of fecal bred flies are night-soil pits. Individual fecal deposits do not, as a rule, breed flies, but, under favorable circumstances, as in ash pits or manure heaps, they may. Four hundred flies have been bred from one single human evacuation. Where water drainage is not available, flies must be prevented from breeding in fecal matter by incineration, deep, or shallow trenching properly carried out, or modified septic tanks. Refuse suspected of containing fecal matter also should be disposed of by incineration or in destructors.

Archives Franco-Belges de Chirurgie, Brussels

October, 1921, 25, No. 1

*Old Pleural Fistulas. J. Duvergey.—p. 1.
*White Swelling of Knee. Vignard and R. Comte.—p. 14.
*Banding Aneurysm of Aorta. L. Rénon et al.—p. 54.
Inward Luxation of Elbow. M. Patel and A. Badin.—p. 62.
Neuromas on External Genitals. Lemoine.—p. 74.
Macrodactylia of Two Last Toes. Dordu.—p. 76.
Traumatic Subseroa Hemorrhage in Cecum. Le Jemtel.—p. 78.
*Surgery of Seminal Vesicles. Dordu.—p. 82.
Pleurisy Secondary to Appendicitis. Le Jemtel and Boulard.—p. 88.

Old Pleural Fistulas.—Duvergey expatiates on the fine results he obtained in forty-eight cases of fistulas persisting after operative treatment of purulent pleurisy or war wounds of the chest. He resected the ribs over the cavity and the parietal pleura to correspond, and then peeled off the thickened visceral pleura, thus releasing the lung from this hampering shell. The rigid shell hampers the excursions of the chest wall, so that a spontaneous cure is out of the question after the fistula has lasted for five or six months. The patient must be in good condition and free from fever before attempting the decortication. Resection of ribs alone is not enough; the lung has to be released from the stiff shell. It then resumes functioning and the conditions that have been maintaining the fistula are thus done away with at one stroke.

Tuberculous Arthritis of the Knee in the Young.—Vignard and Comte relate that in 12 cases of white swelling of the knee they cured it with good functional results in 2 instances; in 4, excursions are not quite normal but there is little if any limping. In the 6 other cases the knee is stiff, straight or flexed. All are described, with 35 illustrations, mostly showing the use of the joint from four to eight years afterward. They are confident that the process is first in the bone, and invades the synovial membrane only secondarily. Heliotherapy requires two years and possibly three for a cure, and their compilation of 114 cases given conservative treatment, shows 29 cured with good and 44 with partial function of the knee, and 44 left with ankylosis, including 34 in which the stiff knee is bent. These results are not so good as the 153 cured in the 181 cases given operative treatment by various surgeons. These figures, they say, justify surgical intervention, and the technic they advocate is to scrape out the tuberculous process in the epiphysis, leaving merely a shell which they fill up with the Mosetig filling. They introduce it in such a way that it does not come in contact with fibrous or muscular tissue but is shut up in a tight bone and muscle box, as it were, and takes months or years to be finally resorbed, as the cavity fills up by the slow natural healing process. The filling is placed in a nickeled copper tube. One end is introduced into the cavity and a metal guide, that fits snugly in the tube, is introduced into the other end. With this piston, the filling is forced out and into all the crevices of the cavity. The tube is selected to fit exactly into the opening of the bone so that none of the iodoform filling can escape into the soft parts. Diameters of 8, 10 or 12 mm. answer the purpose, the tubes from 16 to 25 cm. long. The instruments, curet, etc., are made with extra long handles, so they can be passed entirely through both condyles, from side to side. The average duration of treatment was eighteen months. A series of 14 cases, operated on since 1919, confirms the advantages of this method of treatment. Although it is too early yet to include them in statistics, 5 can flex the knee almost normally, and 6 have a stiff straight knee.

Fusiform Aneurysm of the Ascending Aorta.—Rénon's roentgenograms show the large aneurysm two months and ten days before Tuffier made a compressing sheath from a square sheet of fascia lata tissue from the thigh. By this means the lumen of the aorta was restored to normal size, and roentgenograms over five and six years later show the outline of the aorta still approximately normal. The sternum was divided and drawn aside, which gave ample access. Tuffier describes the technic, and adds that he regretted having made and left a right pneumothorax, and that the sternum had not been replaced exactly properly, and that a number of physicians were present at the operation and they bent over the field and infected it. The woman died from intercurrent uterine cancer about six and a half years after the intervention, and consent to necropsy could not be obtained.

Vesiculectomy.—Dordu reports with illustrations two cases in which one or both of the seminal vesicles were removed with final healing. The vasa deferentia were ligated without apparently interfering with the genital functions in the case of the man of 56. In the other patient the vesiculitis was of tuberculous origin, with various complications requiring further operative measures.

Bulletin Médical, Paris

Oct. 22, 1921, 35, No. 43

*Recurring Meningeal Hemorrhage. H. Lux and J. Adloff.—p. 843.

Recurring Meningeal Hemorrhage.—The final recovery distinguishes the case here reported. The woman of 45 had four meningeal hemorrhages in the course of a month, at different points. The first was in the cerebral meninges, but was slight, the intense headache and inability to move the right arm soon subsided. A week later, symptoms indicated a slight hemorrhage in the cauda equina. The third hemorrhage was more severe, rousing the former foci and inducing coma for several hours. The fourth occurred three weeks later and induced coma and paraplegia of the legs and mental disturbances. Nothing could be found to suggest syphilis or active tuberculosis. The blood findings seemed to be normal and there was no history of a hemorrhagic tendency. The recovery was apparently complete after the seventh lumbar puncture last March, but Cordier has published a case in which a recurring hemorrhage proved fatal after an interval of ten months.

Lyon Chirurgical

September-October, 1921, 18, No. 5

*Juxta-Articular Nodules. F. de Quervain.—p. 561.
Ankylosis of Temporomaxillary Articulation. L. Imbert.—p. 572.
*Rupture of Epigastric Artery. A. Kotzareff.—p. 579.
*Access to Subclavian Artery. Nadine Dobrovolskaia.—p. 593.
*Spinofacial Anastomosis for Facial Paralysis. M. Titone.—p. 601.
*Decompressive Trephining After Trauma. H. Alamartine.—p. 606.
*Fracture of Femur in Adults. A. Charbonnier.—p. 625.
*Sprain and Subluxation of Wrist. E. Destot.—p. 659.

Juxta-Articular Nodules.—De Quervain describes a case of multiple juxta-articular nodules of twenty years' standing in a man of 55 who had never left Switzerland. Excision of one of the tumors revealed it to be a syphilitic gumma, and he thinks this is probably the explanation of the juxta-articular nodules of tropical countries. The strain of spirochetes involved seems to display a special affinity for the connective tissue, and a predilection for regions exposed to repeated trauma. The question can be definitely decided only by examining for syphilis in all cases of juxta-articular nodules.

Spontaneous Rupture of Epigastric Artery.—Kotzareff's retrospective diagnosis in the case described is that the arteriosclerosis in the woman, now 55, had induced a partial aneurysm in the epigastric artery. The aneurysm burst in 1914, causing violent pains for two days, but then subsiding, the artery having evidently become closed again by thrombosis. Two similar attacks followed in 1916, the last one so severe that the artery had to be ligated. There has been no recurrence of trouble at this point, but the patient now presents brain symptoms, evidently from sclerosis of the cerebral vessels.

Access to Subclavian Artery.—Dobrovolskaia is professor of surgery in a Russian university, and she has applied in a number of cases a method of access to the subclavian region which she first published in 1916. The incision follows the sternocleidomastoid muscle and beyond, between its two heads, to the sternoclavicular articulation. It curves around this and is then carried down to the bone along the lower

margin of the clavicle to a point a little beyond the center. The two heads of the muscle are then severed, and the clavicle is disarticulated and drawn upward with all its connections with the soft parts undisturbed. Three cases are described with illustrations to show the advantages of the procedure for access to the subclavian vessels and the brachial plexus. The articulation with the sternum is reconstructed with a couple of stitches.

Anastomosis of Nerves to Correct Facial Paralysis.—Titone reports two cases with quite satisfactory results from his anastomosis of the spinal nerve with the facial nerve to correct traumatic paralysis of the right facial nerve.

Decompressive Trephining.—In Alamartine's six cases described, the injury was the result of a fall on the head, and the decompressive trephining did not prevent the fatal meningitis in one case or the death from hemorrhage without fracture in another. The other men recovered, but one still has headache and dizziness at times.

Fracture of the Femur.—Charbonnier analyzes eighty-eight cases of fracture of the femur in Kummer's service, 1916 to 1919, comparing the outcome with different modes of treatment. Nail extension gave excellent results in 84.5 per cent. of the cases in which it was applied, and no serious by-effects were observed in any instance. The Steinmann nail extension method may be counted on, therefore, he says, to give excellent functional results, especially with fracture of the shaft of the femur, and it materially shortens the stay in the hospital. The few drawbacks of the method are amply compensated by the fine results it is capable of giving. Consolidation required from twenty-five to fifty days.

Sprained Wrist.—Destot refers to what he calls scapho-semilunar subluxation, as well as simple sprain, and tells how to recognize and treat both. He prefers immobilization for five or six days with a stiff cardboard splint, leaving the fingers free, rather than massage or rubbing. Compression with cotton aids in resorption of exudation. The hand should slant toward the ulnar side, and be slightly flexed. The subluxation can usually be reduced with the thumb, pushing on the foveola radialis. With recurring subluxation, a laced leather cuff can be worn.

Presse Médicale, Paris

Dec. 3, 1921, **29**, No. 97

Measurement of Flocculation by Photometry. A. Vernes.—p. 957.
*Antianaphylactic Shock and Colloidoclasis. A. Lumière.—p. 960.
*Costal Osteochrondritis After Typhus. Nadine Dobrovolskaia.—p. 961.

Dec. 7, 1921, **29**, No. 98

Medico-Social Features of Children's Clinic. Nobécourt.—p. 969.
Syringomyelia plus Spina Bifida. M. Klippel and A. Feil.—p. 971.

Dec. 10, 1921, **29**, No. 99

Practical Ration for Children. Renault and de Tannenberg.—p. 977.
Diathermy in Treatment of the Gallbladder. J. Aimard.—p. 981.
Present Status of Dietetic Treatment of Diabetes. Chemisse.—p. 981.

The Antianaphylactic Shock and Colloidoclasis.—Lumière replies to certain objections that have been made to the theory of flocculation as the essential process in the anaphylactic shock. Although the microscope, even the darkfield, is unable to show up the flocculation, yet it can be verified by the agglutinoscope, the seroscope, the dispersimeter and similar instruments. The widely varying substances which induce anaphylaxis all have only one property in common, their flocculation, and the procedures which ward off anaphylaxis all have only one feature in common, namely, their power of preventing flocculation. This can be accomplished by reducing the excitability of the vessels, as with anesthetics; or by means to prevent vasodilatation; or, if the dilatation has occurred, by means to restore the normal proportion between the total capacity of the dilated vessels and the total of the blood. This indication can be met by intravenous infusion of fluid to restore the balance. Another means to ward off shock is by preventing the sudden action of precipitates on the endotheliums, such as occurs when the carotid is ligated, or with venesection, etc.

Complicating Costal Osteochondritis.—Dobrovolskaia refers to cases developing after typhus or relapsing fever, of which she has seen a number of instances. It is not a secondary infection, and it calls only for conservative general treatment plus intragluteal injections of iodoform with tincture of iodin. A tuberculous soil is common. The clinical picture and course are like those with similar typhoid lesions.

Revue de Chirurgie, Paris

1921, **59**, No. 3

*Ankylosis of Knee in Children. Vignard and E. Vincent.—p. 153.
*Treatment of Pulsating Exophthalmos. A. Cauchoix.—p. 197.
*Blood Cysts in Omentum. M. Oberlin.—p. 216.

Correction of Ankylosis of the Knee in Children.—Vignard and Vincent refer to ankylosis of tuberculous origin. With this, they say, there is nothing to be gained by intervention unless the knee is flexed to a crippling extent. The ankylosis should be respected, as this insures the solidity of the limb. But it may be transformed by supracondyle linear osteotomy or, better yet, by osteoclasis. Arthroclasis corrects the deformity without shortening the limb and it can be applied whether the ankylosis is of bone or cartilage, but an interval of three years must be allowed after the complete clinical cure. In the eight cases described, there was never any flaring up of the tuberculosis. Robin's arthroclast answers the purpose perfectly, and the speedy bone repair in children completes the procedure, filling in the gap at the back left by the forcible straightening of the joint. The bone is fractured inside the capsule, at the most prominent part of the curvature, and the procedure is simple and harmless, for children, they reiterate.

Treatment of Pulsating Exophthalmos.—Cauchoix gives four pages of the tabulated details of 18 cases of pulsating exophthalmos treated by ligation of vessels. Only 57.4 per cent. are said to have been cured. In 6 cases the internal carotid was ligated, but only in 66 per cent. with success. In 5 cases both the internal and the common carotid were ligated. In 10 cases both common carotids were ligated for other causes. In 13 cases the vein was ligated for pulsating exophthalmos; the carotid artery had been ligated beforehand in 10 of these cases. Among the final conclusions, the danger of bilateral ligation at the same time is emphasized, and also the advantages of ligating the ophthalmic vein. The latter is so frequently effectual that it deserves an important place, if not the predominant place, in the treatment of pulsating exophthalmos. It is so comparatively harmless that it certainly should be tried in most cases. The superior ophthalmic vein was ligated in 7 of the cases. One surgeon resected the outer wall of the orbit, but the others exposed the vein through an incision at the base of the upper lid. Noyes ligated the inferior ophthalmic vein and three others threw the ligature around the angular vein. In one case intense headache followed, with slowing of the pulse, which he ascribes to thrombosis in the sinus cavernosus. Zeller warns on this account that the ligation of the vein might entail pulmonary edema, but nothing of the kind has ever been observed.

Blood Cysts in the Greater Omentum.—Oberlin remarks that intracystic hemorrhage in a serous cyst is more liable to be encountered in the young than the other variety, encysted hematomas. He reviews twelve cases of the former and six of the latter, with five cases of cystic tumors, sarcomas, lymphangiomas or endotheliomas.

1921, **59**, No. 4

*Serology of Traumatic Shock. Cornioley and Kotzareff.—p. 233.
*Syphilitic Disease of Joints. J. Dupont.—p. 264.
*Gastric Ulcer After Gastro-Enterostomy. J. E. Larrieu.—p. 278.

Serotherapy in Traumatic Shock.—Cornioley and Kotzareff assumed that the toxic albuminoids generated in crushed muscle tissues must circulate in the blood serum and induce the production of antibodies. They confirmed this by experiments on rabbits, inducing a crossed circulation, and then inducing traumatic shock in one of the animals, or else injecting a normal animal with serum from one with traumatic shock. They have thus confirmed the endogenous nature of traumatic toxemia. Blood or serum from animals that had had tissues crushed, when injected into normal animals, induced phenomena of shock, the blood pressure dropping, chills, somnolency. These symptoms persisted for

several hours and then gradually subsided. The serum alone, in larger amounts, killed the animals. The next step was to vaccinate normal animals with the shocked animal's serum, and thus render them immune to the action of the traumatic toxemia when it was induced by crushing of tissues. The animals thus prepared by the vaccination, developed merely abortive symptoms of traumatic shock when tissues were crushed. These and other experiences open a prospect for serotherapy of traumatic shock by injection of an extract of sound muscles. They were able thus to immunize animals until they bore without serious harm repeated traumatic shock growing progressively more and more severe. The serum of these animals finally became so loaded with antitoxins that it did not induce shock phenomena when injected into normal animals, even when drawn at the height of traumatic injury of tissues. "How far we are from the 1914 conception of traumatic shock as of nervous origin!" Their research suggests that this principle of serotherapy of shock might be applied in cases of fractures, burns, fatigue, and probably also in cancers.

Syphilitic Joint Disease.—Dupont found the multiplicity of the manifestations in the joint a feature of the syphilitic joint cases, as also that symmetrical articulations were usually involved, at the same time or with a longer or shorter interval. One man's right knee was affected in 1912; the left in 1914, and in 1918 both knees. The joint affection was indolent in twelve of his eighteen cases. Several of the patients were soldiers, and they continued their military service without functional disturbance from their enlarged joint. The excursions of the joint may be normal. The long duration of the joint affection and the frequent relapses are other special features, as also the prompt and complete cure under treatment for syphilis. This is the touchstone. Radiography may be misleading. Nearly all the cases he has encountered had been mistaken for tuberculous, gonococcus, rheumatic or traumatic arthritis. In certain cases, traumatic injury of the joint seemed to have been instrumental in attracting the syphilitic lesion to develop at that point. In one young man an acute dysenteriform arthritis prepared the soil for a specific arthritis from inherited syphills.

Postoperative Perforation of Gastric Ulcer.—Larrieu has collected 81 cases in a total of 10,500 gastro-enterostomies in which perforation of the gastric ulcer occurred after the gastro-enterostomy. In all these cases the lesions were of long standing, with adhesions that hampered the operator. No instance is known in which the perforation occurred with a recent ulcer. In short, he concludes, the gastro-enterostomy must not be incriminated for mishaps due to defective technic, tearing of adhesions, to the neglect of proper care in diet after the operation, or to the incurable phase of the lesions when the surgeon is called in.

Revue Franç. de Gynécologie et d'Obstét., Paris

October, 1921, **16**, No. 10

*Curetting in Postpartum Infection. A. Grosse.—p. 529.
*Hernia of Fallopian Tube. J. Delépine.—p. 548.

Postpartum Curetting.—Grosse admits that the curet is rarely indicated after delivery, but he insists that in certain cases of retention of scraps of membranes or placenta nothing else can take its place. He never uses it for mere exploration. After curetting, he leaves a wick of gauze in the cervix, to keep it open, and the next day rinses out the uterus with an 18:1,000 solution of magnesium chlorid. This is harmless, he says, and stimulates the vitality of the cells, in addition to its peculiar cleansing action on devitalized tissues. In the maternity in his charge (Nantes) there have been a number of infected cases in the last two years, but only 11, in his opinion, required curetting. All recovered except one woman with hydramnion and grave septicemia, scanty and odorless lochia. The curetting had been done as a last resort, but no retained scraps were found, and no improvement followed it. In some of the other cases, he says, the women evidently owed their lives to the curet.

Hernia of Fallopian Tube.—Delépine reports a case of strangulated femoral hernia in which the contents of the sac proved to be the fimbriated end of the tube. The ovary could be drawn down to the incision, and it seemed sound. The tube was resected, but no traces of inflammation could be detected in it. His review of the less than twenty cases published in the last seventeen years shows that hernia of the tube is remarkably benign. The tube should never be reduced after such an experience except in the young, and then only if it seems absolutely sound. The diagnosis has never been made before the operation in any instance, ordinary hernia having been assumed.

Schweizer Archiv f. Neurol. u. Psychiatrie, Zurich

1921, **8**, No. 1

Affective Movements in Relation to Voluntary and Reflex Movements. W. van Woerkom.—p. 3.
Present Status of Psychotherapy. O. Veraguth.—p. 29.
Development of the Reactions and the Plantar Reflex in the Prematurely Born and to the Age of Two. H. Bersot.—p. 47. Conc'n.
Pathologic Anatomy of Posthemiplegic Athetosis. H. Steck.—p. 75.
Duration of Hallucinations. T. Witry.—p. 86.
*Dementia Praecox Families. W. Boven.—p. 89.

Conditions in Families in Which Dementia Praecox and Manic-Depressive Psychoses Are Liable to Develop.—Boven emphasizes that when a child is born he is not the product of his parents alone but of the family as a whole. The child may resemble an uncle more than its own father—Nature may thus provide for the perpetuation of celibates. Study of the elements displayed on the family palette will often clear up the pathogenesis of mental disease. Lack of sociability is the basis of the pathologic character in dementia praecox families. If sociability is cultivated, the danger is less, especially if emotions, infections and intoxications can be warded off. When there is a sociable tendency in the family, but with a trend to sadness, melancholia and manic-depressive insanity can be pictured from the elements on the family palette. Even with our imperfect knowledge of familial characterology, much can be done in prophylaxis, he remarks in conclusion.

Archivio Italiano di Chirurgia, Bologna

November, 1921, **4**, No. 3

*Changes in Nerve Implants. A. Albanese.—p. 213.
*Experimental Injury of Gallbladder. G. B. C. Fulle.—p. 229.
*Congenital Cysts and Fistulas in the Neck. L. de Gaetano.—p. 265.
*Sarcoma of the Parotid Gland. R. Cassanello.—p. 325.
*Rare Form of Inguinal Hernia. G. Regoli.—p. 334.

The Changes in Nerve Transplants.—Albanese's experiments included transplanting segments of rabbit nerves in dogs and of dog nerves in rabbits, in addition to auto-implants and implants of nerves from the same species. The results confirm anew that heterogenous tissues seem to possess some mysterious property which interferes with the normal development of the biologic processes when transplanted. He gives three colored plates showing the difference in the histologic findings in these different conditions.

Experimental Wounds of the Gallbladder.—Fulle found that the length of survival of the dogs and rabbits was not proportional to the amount of bile that had escaped into the peritoneum, but seemed to depend on whether the bile had been in contact with the peritoneum for any length of time. Sudden flooding of the peritoneum with bile from a large incision in the gallbladder or by injection of bile taken directly from the gallbladder of another animal proved constantly fatal. On the other hand, even larger amounts, if oozing gradually from a small incision, were borne much better, and bile pigments appeared in the urine. Bile taken directly from the gallbladder proved much more toxic when injected by the vein in other animals than extravasated bile taken from the peritoneum. The peritoneum seems to be able to neutralize the toxicity of the bile. The suprarenals seem to suffer first and most from toxic action of the gallbladder bile.

Congenital Cysts in the Neck.—De Gaetano has now a record of 20 operative cases of congenital cervical cysts (12) or fistulas (8). He analyzes them all, with 38 illustrations and 5 pages of bibliographic references. Radical removal of all the embryonal tissue of the same kind, persisting in the region of the cyst, is the only means to insure against recurrence.

V. 7
1922

Sarcoma of Parotid Gland.—Cassanello at first advised expectant treatment when the 3 months' babe was brought to him with a pure sarcoma in the right parotid gland. As the tumor soon tripled in size, he removed it at the age of 8 months. There has been no recurrence during the more than a year since, and the child seems to be thriving normally except for the facial paralysis entailed by the operation.

Rare Variety of Inguinal Hernia.—Regoli has operated in five cases of anomalous oblique external inguinal hernia as he describes. It may come under the heading of an occupational accident.

Pediatria, Naples

Nov. 15, 1921, **29**, No. 22

*Treatment of Pertussis. L. Auricchio.—p. 1009.
*Cholesterin Content of Blood in the New-Born. R. de Simone.—p. 1023.
*The Potential Energy in Breast Milk. C. Pestalozza.—p. 1027.

Vaccine Therapy of Whooping Cough.—Auricchio preferred Caronia's vaccine, that is, an autolysate of a forty-eight hour culture of the Bordet-Gengou bacterium, in distilled water to which 0.5 per cent. phenol is added and, three days later, 0.85 per cent. sodium chlorid. The dose is calculated to contain two thousand millions of the bacteria in 1 c.c. of the vaccine. With this specific vaccine, we enhance the allergic immunity as well as the general immunity, while nonspecific vaccines enhance the latter alone. The dose was 2 c.c., injected into a muscle every day or second day, and no drug was given during the course. He tabulates the results in 196 cases, only 14 not showing benefit from the treatment, while 67.8 per cent. were entirely cured and 26 per cent. were improved. In the 6.2 per cent. in which the pertussis was not attenuated by the treatment, the disease was far advanced when the vaccine therapy was begun or other pathologic conditions interfered with its action. In a further group of 24 children treated by intramuscular injection of ether, with which Genoese, Audrain and others have reported encouraging results, no result was apparent in 87.5 per cent. and only 4 per cent. were cured, although all in this group were in favorable conditions for treatment. The ether has a sedative action, but this is transient, the attacks soon returning as violent as at first. The ages in the total 220 children ranged from 2 months to 9 years, the younger infants being cured by the vaccine as regularly as the older children. One infant of 2 months was given 20 c.c. in eleven days, begun the forty-fifth day of the disease. One only 1 month old was cured by 6 c.c. in the course of six days, begun the fifteenth day. The largest amount required for a complete cure was 26 c.c. in one 5 months' babe, begun the forty-fifth day of the disease, and the smallest amount was 4 c.c. in three days in a girl of 8, begun the fourth day of the disease.

Cholesterin in the Blood of the New-Born.—De Simone found that the cholesterin ranged from 0.65 to 1.05 per thousand in twenty-seven infants tested, from 2 to 17 days old. The lowest figures were in the youngest and frailest of the children, the smallest proportion being in those with inherited syphilis.

The Potential Energy in Breast Milk.—Pestalozza's tables confirm that the fat is mainly responsible for the potential energy of breast milk. He found further that by varying the woman's diet, having her eat more fat, it was possible to increase the proportion of fat in the milk. Chemical analysis of the milk gave much lower calory figures than analysis with the Berthelot apparatus. With the latter, the milk always showed from 80 to 100 calories more than by chemical analysis of the dry residue. The twenty-four separate analyses were all made on the milk of one woman in twenty-four consecutive weeks.

Policlinico, Rome

Nov. 21, 1921, **28**, No. 47

*Regional Tuberculin Skin Reaction. E. Mondolfo and Coscera.—p. 1571.
*Tic of the Diaphragm. I. Bersani.—p. 1576.
Schoolchildren's Health Register. T. Bertani.—p. 1578.
Plastic Closure of Femoral Canal. A. Indelli.—p. 1589.

Regional Skin Tuberculin Reaction.—Mondolfo and Coscera applied the tuberculin test over the focus in 82 tuberculous patients or suspects, and tabulate the findings. In 15 with an apical process, the skin tuberculin test applied to the supraclavicular process induced a much more intense reaction than on the other side or arm. The regional response was much more intense likewise in 3 of 4 cases of renal tuberculosis; in 2 cases of tuberculous pelvic processes; in 10 of 13 with pleural or peritoneal effusions; in 5 of 6 with artificial pneumothorax, and in nearly all of 11 with tuberculous bone or joint disease. The regional reaction seems to occur earlier and with greater intensity than with the ordinary arm technic. A lively regional response testifies to an active process in the depths below, and is particularly useful in thus differentiating the active from the latent.

Tic of the Diaphragm.—In the case reported by Bersani in a man of 51, a gardener, the rhythmic clonic contractions of the diaphragm, up to 120 a minute, were not accompanied by hiccup, and conditions otherwise seemed to be normal. The attacks occurred irregularly, sometimes after emotional stress, and the man was able to accentuate or inhibit them at will. It never seemed to occur during sleep. Remak has reported a somewhat similar case, the clonic contractions up to 48 or 54 a minute and violent enough to shake the trunk. Galvanic electricity to the back of the neck and back checked the spasms, and they finally subsided completely. Satta has described 5 cases differing only in the fact that the phenomenon was continuous, even during sleep. He ascribed it to myoclonia, but in Bersani's case a neuropathic element and the tic nature are beyond question.

Gaceta Médica de Mexico

January-September, 1921, **55**, No. 1. National Centenary Number

*Early History of Medicine in Mexico. N. León.—p. 3.
*Findings in Eye Fundus After Skull Trauma. R. Silva.—p. 49.
*Diverticulum in Bladder. Ulises Valdés.—p. 63.
Surgical Treatment of Abscess in Side of Pharynx. R. Tapia y Fernández.—p. 71.
Glioma of Suprarenal Capsule. I. Prieto.—p. 81.
*Site for Amputation of Leg. Rosendo Amor. E.—p. 91.
Some Surgical Notes. J. Velásquez Uriarte.—p. 99.
Bubonic Plague at Veracruz in 1920. M. S. Iglesias.—p. 109.
Campaign Against Plague at Veracruz. O. González Fabela.—p. 121.
Insect Eggs as Food. M. Cordero.—p. 141.
*Treatment of Keratoconus. A. F. Alonso.—p. 149.
Teaching Hygiene in the Primary Schools. J. E. Monjarás.—p. 157.
Methylene Blue in Therapeutics. F. Bulman.—p. 165.
Frequency of Vertex Presentation in Mexico. E. Landa.—p. 171.
Obstruction of Nose in Children. P. P. Peredo.—p. 183.
*Draining Adnexa Through Vagina. M. Godoy Alvarez.—p. 201.
The Diet in Institutions for Children. R. Carrillo.—p. 207.
*Dementia Praecox. O. Aragón.—p. 219.
*Infants' Diarrheas. Santiago Ramírez.—p. 223.
Modification of Wassermann Reaction by Natural Antisheep Amboceptor. E. Cervera.—p. 231.
*Present Status of Obstetric Surgery. A. López Hermosa.—p. 247.
A Mexican Plant of Tournefortia Family. J. M. Noriega.—p. 255.
*Some Medicolegal Studies of Blood. F. Castillo Nájera.—p. 271.
*The Sensory Chiasmas. Ramón Pardo.—p. 293.
*Tuberculous Lupus of Leg. J. González Urueña.—p. 347.
*Experimental Yellow Fever. P. Pérez Grovas.—p. 351.
Malignant Smallpox Sore Throat. D. López.—360.
We Go Forward or Backward, Never Stand Still. M. Uribe Troncoso.—p. 363.
Hematology of Altitude. D. Vergara Lope.—p. 368.
Analogies Between Medical Art and Musical Art. F. Hurtado.—p. 370.

History of Medicine in Mexico.—León reviews in this third instalment the years 1601 to 1625, portraying conditions of medical practice, hospital service and of medical education in Mexico under Spanish rule.

Fundus Findings with Trauma of Skull.—Silva discusses a case in which optic neuritis in both eyes, after a fall from a horse and development of acute otitis, called for lumbar puncture at once. This relieved the headache, and vision gradually improved to complete recovery. Spinal puncture not only may ward off blindness in such cases but it throws light on the nature of the damage from the trauma. The fundus may reveal some complication, possibly unsuspected otherwise, but which may progress to fatal meningitis. Inflammatory and mechanical factors may be so blended that it is impossible to separate them.

Diverticulum of Bladder.—Valdés gives an illustrated description of the first case of the kind to be published in Mexico, although the anomaly is probably not uncommon. In his case the diverticulum had been located, but adhesions

prevented invagination of the diverticulum, and a fistula persisted for eight months. The man then applied to another surgeon to cure the fistula; the surgeon, not knowing of the diverticulum, merely closed the fistula by the usual technic. The pyuria continued, however, and the fistula opened up again. Roentgenoscopy then revealed the diverticulum, and after it was excised, clinically normal conditions were restored.

Technic for Amputation.—Amor discusses the technic best adapted for persons unable to pay much for prostheses.

Treatment of Keratoconus.—Alonso compares the various methods of treatment advocated, and describes the excellent results obtained in a recent operative case in a boy of 14 who has regained satisfactory vision. He could hardly distinguish light from darkness with that eye before.

Draining a Pus Pocket in the Adnexa Through the Vagina.—Godoy Alvarez has been much gratified with the success in this line, rendering the planned laparotomy unnecessary. He introduced a trocar through the roof of the vagina and, guided by this, introduced forceps into the focus. Spreading the blades of the forceps brought a flood of pus. Recovery was always smooth, and the patients had escaped a mutilating operation.

Dementia Praecox.—Aragón takes a pessimistic view of dementia praecox proper, but he says that the psychasthenia of puberty and hysteria from ovarian insufficiency may induce clinical pictures liable to be mistaken for dementia praecox. In one case he describes, the hysteria of a girl who had failed to menstruate at the proper age, was diagnosed as dementia praecox. She was placed in an asylum, with epileptics and insane, and was growing worse, when Aragón prevailed on the family to send her into an entirely new environment. After a year in a boarding school, during which menstruation became established, the girl is now apparently completely normal.

Diarrhea in Infants.—Among the causes of diarrhea, Ramirez mentions unsuspected syphilis, and relates the gradual recovery under mercurial inunctions of an infant that had had diarrhea and vomiting for the two months since its birth. In a group of other cases nothing arrested the diarrhea except parenteral injection of breast milk. This proved promptly effectual. One in this group was his own child who had had diarrhea and colics from the first days of its life to the third month when he injected the milk. One infant nearly 3 months old had been having sixteen stools a day; a total of 9.5 c.c. of milk was injected in four days, in the amounts of 0.5; 1; 3 and 5 c.c., and there was no further diarrhea.

Obstetric Surgery.—López Hermosa analyzes the indications for surgical intervention in obstetrics, and the trend of the times to audacity in obstetric surgery. He reiterates the necessity for always bearing in mind that parturition is an essentially physiologic process, and always being certain of the cause of the dystocia before operating.

Medicolegal Study of Blood.—Castillo Nájera experimented on dogs and rabbits to learn whether it is possible to tell from the blood corpuscles in the blood coagulated in a wound whether the wound had been inflicted during life or after death. He describes the findings in this respect also in eleven medicolegal cases. This means of investigation not only reveals whether there had been a vital reaction to the wound, but the interval since the wound was inflicted can be approximately estimated by the deformation and condition otherwise of the corpuscles. The findings are instructive even when the blood is mixed with other fluids and pathologic products. When the erythrocytes have been all destroyed, the excess of leukocytes—in comparison to those found in blood from other regions—testifies to the vital reaction that had taken place.

Psychologic Importance of the Chiasmas.—Pardo comments on the incompleteness of the crossing of the fibers of nerves in decussation, and the importance of this very incompleteness for the phenomena of perception.

Experimental Yellow Fever.—Pérez Grovas inoculated guinea-pigs with blood from persons at Veracruz suspected of having yellow fever. The animals developed the typical disease, and from the blood of the patients and also from the blood of the animals he succeeded in obtaining pure cultures of *Leptospira icteroides*. His report was published in full in THE JOURNAL, Feb. 5, 1921, p. 362.

Archiv für klinische Chirurgie, Berlin

1921, **117**, No. 1

The Subjective Symptoms of Arthritis Deformans. N. Guleke.—p. 1.
*Plastic Operations on Bones. T. Gluck.—p. 13.
Congenital Fracture of Femur. P. Frangenheim.—p. 22.
*Importance of Neuroma on Central Nerve Stump. F. Brüning.—p. 30.
*Pylorus Preserves Against Postoperative Peptic Ulcer. Haberer.—p. 50.
*The Pylorus and Postoperative Peptic Ulcer. G. Kelling.—p. 68.
*The Failure of Deep Roentgen Therapy of Cancer. F. Keyser.—p. 97.
*Results of Cholecystectomy. Hinz.—p. 106.
*Surgery of the Pericardium. H. Klose.—p. 138.
*Treatment of Pseudarthrosis. Von Lorentz.—p. 149.
Diaphragmatic Hernias. B. Breitner.—p. 164.
Carcinoma of Common Bile Duct. Amberger.—p. 189.

Bone Plastic Operations.—Gluck recalls his publication in 1890 of the results of his plastic operations on bones which he had been practicing since 1876. He here describes the ultimate outcome in a number of cases in which he had bridged extensive gaps in long bones by implants of bone, ivory or metal. He now has a long record of 220 cases of osteomyelitis treated by resection into sound tissue and osteoplastics. Bone implants were used in Asia over five centuries ago, but the principle of his work in this line was to get the tissues to heal over the implant, and make the latter serve not only for fixation and support, but as a stimulus to regeneration of bone tissue, and as a guide for its proper shaping and functional use. It is immaterial whether dead or living bone is used, or ivory or metal, if the ends are invaginated in the bone marrow of the stumps, and if healing is by primary intention. The organism adopts the support and proceeds to substitute the foreign substance with living bone tissue, not casting off necrotic particles, but seeking to incorporate them in the new bone, a process of *substitutions-synostosis*, as he calls it. A number of cases are described in which an ivory implant replaced two thirds of the ulna, or the whole of the radius or tibia, all between 1890 and 1893, and the result to date has been perfect. The roentgen rays show in the place of the ivory a strong and functionally capable bone shaft. One man, now 32, with an ivory tibia since the age of 5, served through the war without mishap. One girl, now 15, had two thirds of the tibia substituted ten years ago by a bone from an old Paris mounted skeleton. The tibia now seems absolutely normal in outline and function. One case reported was the first instance of successful transplantation of a whole bone with the epiphysis portion, and artificial production of a new joint. The fibula was substituted for the tibia and talus, with production of a fibulocalcaneum joint, with the aid of an ivory peg, all under roentgen control since 1898. When a metal implant is used, it may heal faultlessly in place, or it may be cast off later after it has answered its purpose as a support and stimulus to regeneration. In one such case two thirds of the shaft of the femur were replaced with a metal bar, removed six months later. In another case the metal bar replaced the entire femur, its upper end implanted in the acetabulum, the lower in the marrow of the tibia. The bone regenerated from both hip joint and tibia, and the metal implant was removed after nine months. The man can walk and jump on that leg, although it is shorter than its mate.

The Neuroma of the Central Stump.—Brüning ascribes to irritation from the scar tissue on the stumps the pathologic conditions after a nerve is severed. Trophic disturbances may yield to neurolysis; if not, the neuroma should be resected, with suture. If this is not practicable or the neuroma returns, periarterial sympathectomy should be tried on the main artery of the limb. Only after exhausting all these measures should amputation be considered. He describes some cases of prompt healing of rebellious trophic disturbances after resection of the inflamed section of the nerve or merely of the neuroma of the central stump.

The Pylorus and Peptic Ulcers.—Haberer has long proclaimed that the pylorus enhances the danger of peptic ulcer in the jejunum, whether the pylorus is open or shut off. This is probably due to spasm of the pylorus, and by resecting the

pylorus this factor is eliminated. In 710 resection operations on the stomach in which this principle was followed, there has been no instance of peptic ulcer to date, regardless of whether merely the pylorus or a large portion of the stomach had been resected. On the other hand, peptic ulcer developed in 20 per cent. of 71 cases in which the pylorus was not resected but merely tied off. The interval before the jejunal peptic ulcer developed, ranged from a few weeks to eight years. Gastro-enterostomy alone is much less liable to induce a peptic ulcer; it occurred in scarcely more than 1 per cent. of his 265 cases of this kind. In his total of 17 peptic ulcers, the primary operation had been for a duodenal ulcer in 14, and in only 3 for a tumor at the pylorus. Recurrence of the peptic ulcer was certain in 2 of his 18 cases, and was probable in another, and a permanent cure was not realized until the pylorus segment was resected.

The Pylorus and Peptic Ulcers.—Kelling does not agree with Haberer's views set forth in the preceding abstract, and cites eight cases of peptic ulcer on record in cases in which the pylorus had been resected, and four others, with a personally observed fifth case, in which peptic ulcer had developed after a Billroth I or II operation. He also cites a large number of cases of exclusion of the pylorus with no tendency to peptic ulcer, and reports research on the physiology of the pylorus with tests of pylorus extract. He urges to make a Kader fistula into the fundus of the stomach and also into the pylorus region after an exclusion operation on the pylorus, and even after simple gastro-enterostomy for gastric ulcer. This is in the interests of the patient, while it would afford extremely useful information for general application, and especially on the pathogenesis of ulcer. The fistulas might serve for direct medication and for feeding. He suggests further that it might prove possible to induce atrophy of the stomach enough to conquer hyperchlorhydria, by feeding through a jejunostomy for a time. In any operation on the stomach, the blood supply to the stumps must be carefully guarded, and especially with exclusion of the pylorus. Milk seems particularly advisable as a food to aid in the healing of an ulcer. Foods that most stimulate gastric secretion should be carefully avoided, and others taken freely that bind the hydrochloric acid, such as soft cheese, milk dishes, milk powder and finely chopped meat.

Biologic Prophylaxis of Cancer.—Keysser quotes Bumm and Schäfer to the effect that in their compilation of cases of cancer of the uterine cervix given operative treatment alone, 48.6 per cent. were free from recurrence after a five year interval, but only 25 per cent. after roentgen-ray treatment alone. Krönig declares that we can count on only 15 per cent. of all cancers being permanently cured by operative measures. Keysser comments that it is more rational to try to modify conditions in the host by a biologic prophylaxis. He now has a record of 14 cases treated systematically along these lines about eight years ago. A 20 and a 50-per cent. emulsion was made of 1 mg. of the tumor tissue in 9 c.c. of physiologic saline. The cells were devitalized with a 0.5 per cent. solution of phenol, and the emulsion was injected subcutaneously in progressive doses, beginning with 0.2 and 0.4 of the weaker and then of the stronger emulsion and then of the mother suspension, to a total of 3 c.c. of the latter. The course took four or five months, with six day intervals. The cancers in the 14 cases included a rectal carcinoma, sarcomas of bone and stomach, and mammary cancers. In 8 of the cases the cure has been complete for eight years to date, for five in one case, and another patient died from cerebral hemorrhage after three and a half years without recurrence. One patient succumbed early to metastasis in the lung which must have existed at the primary operation. Another gained 50 pounds in weight and felt so well that he refused further injections after the seventh, and the rectal carcinoma recurred in nine months. There was recurrence further in 2 other sarcoma cases, but the recurrences were cured by another operation, so that 90 per cent. of the 14 patients can be regarded as cured. This certainly indicates, he declares, that the system was modified in some way by this biologic immunization, reducing the predisposition to malignant disease when there was no metastasis at the time. The recurrences of the tumors were of a less malignant form. Keysser is privatdozent for surgery at the Jena University, and he offers to make the autogenous emulsion if material is sent him, until arrangements can be made for centralizing the work in some cancer research institute. The main drawback to this biologic prophylaxis is the difficulty of getting the patients to return systematically for the injections.

Remote Results of Cholecystectomy.—Hinz tabulates the details and the immediate and ultimate results of his operations on the biliary apparatus, grouping the 9 fatal cases, the 41 of chronic gallstone affections, the 39 of acute cholecystitis, and the 9 of acute cholecystitis with stones in both gallbladder and common bile duct. The postoperative disturbances are generally traceable to cicatricial changes existent at the time of the operation. Hypochylia and achylia remain as irreparable damage from the gallstone affection in more than half of the cases. They are the more severe the longer the irritation from the gallstones had lasted. All these and still other reasons testify, he says, to the importance of an early operation in every stage of lithiasis.

Plastic Operations on the Pericardium.—Impressed by the grave consequences of adhesive pericarditis, especially in children, Klose has been experimenting on surgical means for its relief. In 7 of Heubner's 16 cases the children did not long survive, and 2 others were chronic invalids. The diagnosis is based principally on the symptoms from insufficiency of the thin-walled right auricle. Relief is obtained by releasing the heart from its fixation to the pericardium, and preventing reproduction of the effusion. He has operated in 3 such cases, releasing the heart from the adhesions impeding its movements. In a fourth case the adhesion was so firm that the epicardium had to be detached from the heart over a large area. To prevent reproduction of the effusion, he resected the anterior wall of the pericardium in the man of 30, patching the defect with a fat and fascia flap from the thigh. The patient succumbed two weeks later to pneumonia, but the flap was found well healed in place. No functional disturbance was manifest in five healthy dogs after he had removed the entire pericardium, with care not to injure the phrenic nerves. In 19 other dogs he closed the defect with an autoflap of fat or fascia or peritoneum and omentum. The fat flap seemed to answer the purpose best; it forms a functionally perfect substitute for the pericardium. None of the dogs show any trace of adhesion, and in one that lived two years afterward even necropsy showed no trace of the plastic operation. He adds that his attempts to prevent reproduction of the adhesion by injection of drugs were disastrous; nitrogen or other gas does not prevent the sheets from growing together again. The experiences related justify the attempt to cure this almost inevitably fatal affection by breaking up the adhesions and preventing their otherwise certain reproduction by an autoplastic operation. He gives two illustrations showing the healing of the fat flap with its six catgut stitches.

Pseudarthrosis.—Lorentz gives the roentgen-ray findings in seven war wound cases of pseudarthrosis before and after operative treatment.

Beiträge zur klinischen Chirurgie, Tübingen

1921, **124**, No. 1

*Anastomosis for Varicose Veins. E. Hesse and W. Schaack.—p. 1.
Primary Dermoids in Mesentery. R. Sommer.—p. 84.
Inflammatory Ileocecal Tumors. K. Bachlechner.—p. 103.
Genuine Mesenteric Cysts. E. Forster.—p. 116.
*Spastic Ileus. Nagel.—p. 139.
Clinical Picture from Aberrant Pancreas Cells. L. Ritter.—p. 157.
Importance of Lumbar Puncture with Brain Injuries. J. Bungart.—p. 173.
Injury of Skull from Explosion of Carbid Lamp. A. Horner.—p. 198.
Posttraumatic Meningococcus Meningitis. A. Kalb.—p. 211.
*Pulmonary Embolism at Amputation of Infected Limb. A. W. Fischer.—p. 222.
*Inguinal Operation for Femoral Hernia. A. Leb.—p. 230.
Ileus from Postoperative Antiperistalsis. H. Eggers.—p. 235.

Operative Treatment of Varicose Veins.—Hesse and Schaack conclude from their extensive experience at Petrograd with implanting the saphenous vein in the femoral vein according to Delbet's method (1908) that it is logical and feasible, and conforms to the anatomic and physiologic conditions.

They have applied it in 115 cases, but in 25.6 per cent. the results were disappointing and hence they do not unconditionally recommend the method, especially as the outcome of Madelung's saphenectomy seems to be equally good. They applied this in 20 cases, and the results were excellent on the whole. By carrying the resection high up into the oval fossa the outcome will be even better. They applied Babcock's extraction method in 25 cases, and were satisfied with the outcome. Unfortunately this method cannot be applied when the walls of the vein are friable. Rindfleisch's spiral incision was made in 17 cases in which the varices encircled the entire circumference, and the results were good except that circular callous ulcer sometimes showed but little influence from it. Their study of the subject fills 83 pages with 18 illustrations.

Spastic Ileus.—Nagel found the spastic occlusion in the form of a ring, 1 cm. wide, in the lower small intestine in one case; in the other the larger part of both small and large intestines were spastically contracted. Neither patient presented unmistakable signs of ileus, and the pulse did not indicate irritation of the vagus. Necropsy in each case cleared up the diagnosis which even the laparotomy had not settled. He compares 51 cases from the records with these. The total mortality was 20 per cent. in the 36 cases of primary spastic ileus, and 53.3 per cent. in the 15 cases of postoperative spastic ileus cases. The outlook is thus better in the primary cases. The direct cause for the spastic ileus may be of the most diverse nature. A nervous predisposition is the main factor. This should encourage giving atropin and waiting to see its effect when symptoms indicate ileus in a particularly nervous person. In his first case the symptoms were those of appendicitis, and there was nothing to suggest ileus. But this was the only case of the kind in the compilation.

Pulmonary Embolism at Amputation of an Infected Limb.—Fischer reports two cases in which the pulmonary embolism occurred the same day as the amputation. He suggests that this might have been prevented by blocking the vein before taking off the dressings, or, better yet, resecting a segment of the vein or simply ligating it. He suggests this as advisable for the wounded before transportation, blocking the main vein from the infected limb.

Inguinal Operation for Femoral Hernia.—Leb's illustrations show the simple technic with which he has been much pleased in his eight cases. A curved needle can be passed from the inguinal canal around the base of the hernial sac. The neck is incised and the distal portion left for a living tampon in the region of the oval fossa, the tissues thus escaping with the minimum of injury.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

October, 1921, 55, No. 6

*Central Luxation of Head of Femur. A. Mayer.—p. 315.
*Is Manual Extraction of the Placenta Dangerous? H. Baumm.—p. 322.
*Endogenous Microbism. R. Salomon.—p. 331.
*Injury of Uterus in Artificial Dilatation of Cervix. L. Fraenkel.—p. 340.
*Infarction of Uterus and Adnexa. F. Geppert.—p. 346.
*Safety Curet. P. Klaar.—p. 349.

Obstetric Importance of Central Luxation of Head of Femur.—As the head projects into the pelvis, the pelvis is made correspondingly narrower, and asymmetrical. Mayer's experience, however, has demonstrated that delivery can proceed smoothly and spontaneously at term even with this anomaly. In three cases described, the mechanism differed with each, and the children were large.

Manual Extraction of the Placenta.—Baumm cites the mortality after manual extraction of the placenta as reported from seventeen German clinics. The figures range from 1.97 to 13.92 per cent., and certain obstetricians regard this as the most dangerous of all obstetric procedures. Liepmann has declared that he would prefer total hysterectomy to it. The experiences at the Breslau maternity, however, fail to sustain any such unfavorable view. Manual extraction of the placenta was done in 1.2 per cent. of the 20,418 deliveries of the last twenty years, and it was followed by a febrile puerperium in only 34.7 per cent. and only 2.8 per cent. died of the 248 women. As this mortality includes the infected cases and those that had required version, perforation, etc., the mortality cannot all be ascribed to the manual extraction of the placenta. Manual extraction is usually reserved to the very last when convinced that the woman must not be allowed to lose another drop of blood. At this stage, she is so weakened and defenceless that the uterus offers a fine culture medium for infectious germs. As Fritsch expresses it, "The woman is not dying because there is sepsis, but sepsis develops because she is dying." The weakening from extensive losses of blood favors the onset of fever. In the total Breslau expreriences there were 425 deliveries normal in every respect and nothing done to invite infection, but after exceptionally profuse hemorrhage, following delivery, 67 per cent. developed fever, and 0.7 per cent. died. The practical conclusion is not to wait too late for manual extraction of the placenta. If the woman has already lost more than 500 gm. of blood, then we may anticipate fever, but it is a mistake to attribute it to the manual extraction. The latter should not be attempted when another operation has been done, or there are already signs of infection, or the woman is exsanguinated. Excluding these classes of cases from the Breslau list, shows manual extraction in a remarkably favorable light. No unfavorable influence from it was detectable in the pure and noninfected and the nonexsanguinated cases, and there is no need to fear injury of the uterus from it if properly done. If there is no hemorrhage, he waits for two hours in case of retention of the placenta. Then the Credé procedure is applied, and if this fails, turgidization of the placenta, injecting saline into the placenta, may be tried, or manual extraction.

Endogenous Microbism.—Salomon applies this term to the micro-organisms lurking harmlessly in the body, slumbering infection, or latent infection, which a trauma or operation is liable to rouse to full virulence. In 2 of 18 cases studied comprehensively from this point of view, the micro-organisms cultivated from an abscess that developed after an operation were identical with the saprophytes cultivated from the vagina beforehand, when the women were supposedly entirely healthy. This endogenous microbism was evidenced in a woman with latent paratyphoid infection who developed active paratyphoid fever after the trauma of an operation, and died. Sternberg found that the serum of 12 of 20 healthy women examined agglutinated the streptococci or staphylococci vegetating apparently harmlessly in their vaginas. The agglutination occurred up to 1:4,000 in some cases, although there was not the slightest indication of any clinical manifestations from them. There was no agglutination of streptococci or staphylococci found elsewhere than in the vagina. In the vagina the balance between the micro-organisms and the defensive forces may be upset by some trauma, the defensive forces weakening and allowing the micro-organisms to get the upper hand. Parenteral protein therapy may reenforce the defensive forces, and thus maintain the balance between them and the endogenous vaginal micro-organisms. Or other micro-organisms might be introduced into the vagina which would overwhelm and crowd out the potentially virulent ones, or the vagina might be disinfected, an autogenous vaccine for the saprophytes in the vagina might be used, or cell function promoted with radiotherapy.

Injury of Anterior Uterus Wall in Artificial Dilatation of the Cervix.—Fraenkel reports three cases in which the cervix was ruptured as an attempt was made to dilate it with fingers or tent by an experienced gynecologist under favorable conditions. He has been converted by these experiences to anterior hysterectomy as preferable to blind and unphysiologic procedures with bougie and tent.

Infarction of Uterus and Adnexa.—Geppert comments on the rarity of infarction of the female genital organs, and reports a case in a young woman. It had occurred in consequence of criminal abortion by injection of lysol into the uterus.

Safety Curet.—The curet of which Klaar gives an illustrated description is graduated in millimeters so that it can be introduced to the exact depth desired. An elliptic metal plate slides on the stem of the curet and can be adjusted at any desired point to prevent the curet from entering any farther into the uterus than to the desired depth.

Münchener medizinische Wochenschrift, Munich

Oct. 14, 1921, **68**, No. 41

Hemorrhagic Erosions of the Rectum. K. Westphal.—p. 1307.
Hints on Examination of Thorax. H. v. Hoesslin.—p. 1312.
*Endosecretory Problems in Gynecology. J. Halban.—p. 1314.
Effect of Closure of Carotid Arteries on Heterotopic Heart Impulse. B. Kisch.—p. 1317.
Clinical Observations on the Precipitation Velocity of Erythrocytes in Citrated Blood. F. Bennighof.—p. 1319.
Method for Gaging Deep Roentgen-Ray Dosage. Mühlmann.—p. 1320.
Roentgen-Ray Treatment of Tumors. A. Kohler.—p. 1322.
Angioneurotic Syndrome with Acute Albuminuria Following Use of Neo-Arsphenamin. Zinsser.—p. 1322.
Blood Transfusion in Hemophilia. F. Herzog.—p. 1323.
Diabetes Mellitus and Hemorrhagic Diathesis. H. Gorke.—p. 1324.
Effect of Alcohol Treatment Hampers Gasserectomy. Koch.—p. 1324.
Operative Treatment of Scoliosis. H. v. Baeyer.—p. 1325.
Does Schizophrenia Develop as the Result of Recessive Hereditary Characters? F. Lenz.—p. 1325.
Köhler's Disease in Metatarsophalangeal Joint. J. Kirner.—p. 1326.
Roentgen-Ray Treatment of Sclerodermia. J. Donath.—p. 1326.

Endosecretory Problems in Gynecology.—Halban recalls that progress in the knowledge of the endocrine glands has overthrown many of our views in the field of gynecology. This is true not only of physiology but also of pathologic conditions. For example, the ovary has long been recognized as the center of the genital apparatus of the female, since after ovariectomy, as well as after the natural cessation of ovarian function during the climacteric, an involution or atrophy of the whole genital system occurs. It was formerly supposed that trophic nerves extended from the ovary to the other sexual organs, and that the atrophy that followed ovariectomy was due to the division of these nerves. But of late it has been shown that if the ovaries are removed and subsequently reimplanted elsewhere, atrophy does not occur, although the nerves have been divided in exactly the same manner. This confirms that the trophic influence of the ovary must be due to chemical substances, and that the ovary is a gland of internal secretion. Halban has shown by experiments on apes that in these animals menstruation, which occurs every four weeks, as in the woman, is preserved if the extirpated ovaries are reimplanted in the body either peritoneally or subcutaneously. When the transplanted ovaries were later removed, menstruation ceased.

Zeitschrift für Tuberkulose, Leipzig

October, 1921, **38**, No. 2

*Immune Pathology and Vaccine Treatment of Tuberculosis. H. Hollaender.—p. 81.
*Roentgen Rays and Pulmonary Tuberculosis. F. Jessen.—p. 95.
Friedmann's Remedy for Tuberculosis. C. Moewes.—p. 103.
The Pathologic Anatomy of Pulmonary Tuberculosis in Relation to Chemotherapy. A. Winkler.—p. 106.

Vaccine Therapy of Tuberculosis.—Hollaender explains the ten links in the chain that is formed by immune-pathology and immune-therapy. Phagocytosis is the indispensable first link. Treatment must aim to imitate and follow the natural processes of autoimmunization. His conception of this is that the tubercle bacilli ensconced in the body or injected in a vaccine are incorporated by the phagocytes. The phagocytes produce agglutinin; this dissolves the waxy shell of the bacillus and releases the bacillus protein, the endotoxin. The fourth link in the chain is the ectodermotropic properties of the endotoxin which insure that it becomes anchored in the cells of the ectoderm. These cells produce lysins under the influence of the endotoxin, which is the fifth link in the chain, as these lysins have a proteolytic action. This transforms the endotoxin into the soluble exotoxin (albumoses, peptone, nucleo-albumoses). The exotoxin is mesenchymatropic, and this anchors it to the body cells derived from the mesenchyma. These latter cells produce under the influence of the exotoxin a precipitin. This precipitin causes the disintegration of the exotoxin, breaking it up into its elements, polypeptids, amino-acids and purin bases, some of which are insoluble. The combination of them all forms the anaphylatoxin, the ninth link. The anaphylatoxin is not retained but is eliminated, this tenth link completing the chain. Systematic subcutaneous injections of the vaccine start and maintain the chain at work.

The Roentgen Rays in Diagnosis and Treatment of Pulmonary Tuberculosis.—Jessen writes from Davos to extol the advantages of roentgen examination to detect the finer changes in the tuberculous lung from time to time. In treatment, the roentgen rays seem theoretically indicated, but the clinical results have not been such as to encourage radiotherapy as a routine procedure. The danger is that the different parts of the tuberculous process might respond differently, a tendency to healing in some parts being accompanied by aggravation in other parts.

Zeitschrift für Urologie, Leipzig

1921, **15**, No. 3

Rupture of Male Urethra Intra Coitum. Flechtenmacher.—p. 73.
Aspirator for Secretion in Urethra. W. Richter.—p. 74.
Paraurethral Phlegmons. E. Brack.—p. 76.
*Diverticulum in Bladder. K. Keydel.—p. 79.
Malakoplakia in Bladder: Two Cases. R. Ramcke.—p. 92.

Symptoms from a Diverticulum of the Bladder.—Keydel analyzes a number of instructive cases of different types. He regards a diverticulum as a more serious condition than enlargement of the prostate, as a rule, and hence advises operating on the diverticulum rather than on the prostate when the two are associated. It may be difficult to decide to which to ascribe the symptoms observed. The condition is not of acute development, and the toxic action should be combated before attempting any intervention. The outcome, the survival, may depend on whether the patient has recuperated or not from his toxic debility. With a diverticulum, the symptoms vary from time to time, and the relations between the diverticulum and the adjoining organs modify the symptoms, as also the congestion and hyperemia in the diverticulum walls. The imperfectly evacuated bladder presses on the rectum, and tenesmus is entailed. There may be persisting painful sensations and smarting in the bladder and lower abdomen, pains in the kidney, and irritation in the peritoneum.

1921, **15**, No. 4

*Origin of Tube-Casts. C. Posner.—p. 113.
Causes of Atony of Ureter. G. Woskressensky.—p. 120.
Experimental and Clinical Research on Pyelography. Barreau.—p. 134.
Influence on the Prostate of Roentgen Exposure of Testicles. A. v. Lichtenberg.—p. 144.
Nephropexy Cures Pyelonephritis in Solitary Wandering Kidney with Miliary Abscesses. B. v. Rihmer.—p. 146.

Origin of Tube Casts.—Posner studied the viscosity of urine flowing through glass capillary tubes, and from this and other data concludes that the formation of tube casts is a chemical-colloid process analogous to formation of concretions. It is favored by extra viscosity of the urine, and measures to render the urine more fluid may aid in warding off tube casts. The acidity of the urine also increases the surface tension, and hence alkalies that reduce the acidity are useful in warding off tube casts with acid urine. With contracted kidney, on the other hand, the viscosity is not high, and hence the surface tension is not modified by giving alkalies. In any event they should not be given in large doses, or the production of edema may be favored. The effect of alkaline mineral waters may be of a chemical colloid nature, and combine a diuretic with a surface tension modifying influence. The favorable action of a salt-poor diet may be partly explained on this basis.

1921, **15**, No. 5

*Internal Secretion and Sexuality. Waldeyer et al.—p. 153.

Internal Secretion and Sexuality.—This entire number is devoted to the detailed report of the joint session of the Berlin Medical Society for Sexual Research and Eugenics and the Berlin Urologic Society. Waldeyer described the anatomy of the eight true endocrine glands; of the six with both internal and external secretion; the three that are suspected of an internal secretion but it has not yet been demonstrated (mammary and salivary glands) and the non-glandular bodies to which an internal secretion is credited (spleen, chorioid plexus, myometral cells, pyrrhol cells, fat bodies, placenta and fetus). Richter pointed out that castration of males entails an infantile, asexual further development. Also that there are genital centers in the brain, especially on the floor of the third ventricle. The internal secretion is an important factor in the psychosexual sphere, but is not the only one. The endocrine hormones influence

the brain, but the brain has also an important influence on internal secretion. In Steinach's experimental modification of the sexual characters, he added, only the sexual characters were modified; the sex itself was never altered. Richter commented on his microscopic findings in the testicles of pseudohermaphrodites, the homosexual, dwarfs, etc., remarking in conclusion that there is no conclusive evidence to date that the interstitial cells of the testicles are important from the morphologic standpoint.

Testicle Transplants.—Lichtenstern has now a record of eighteen cases, and in all of them the implanted testicle healed in place and has apparently answered the desired purpose for years to date. In four instances he used normal testicles, and in the others undescended testicles. In eight of the cases the operation was done to cure pure homosexual impulses, and the cure was complete. This success corroborates Steinach's discovery of female elements in the sexual glands of the homosexual persons examined. In treatment of eunuchoidism, transplantation of a testicle from the father seems the preferable technic. Mühsam's experience with three cases confirms that the implanted testicle continues its internal secretion indefinitely. Other communications were on the relation of the prostate to the sexual function, on the chemistry of the internal secretions, and on organotherapy in gynecology, etc.

Organotherapy in Gynecology.—Kalledey explained that dysmenorrhea is accompanied by high intracranial pressure and hyperemia in the mucous membrane of the mouth, nose and throat, along with the pains in the lower abdomen and the extreme lassitude. An intravenous injection of ovarian extract banishes all the symptoms in almost every case. Amenorrhea, dysmenorrhea and functional menorrhagia are all the result of ovarian functional insufficiency, and all are benefited by administration of the ovarian hormone, preferably by the vein. He advocates a two weeks' course of injections, every one or two days, suspending for two weeks and then resuming until menstruation is normal. Ovarian treatment plus reclining and forced feeding will usually cure even the most chronic cases of chlorosis. Ovarian treatment is also indicated for the disturbances of the menopause. With metrorrhagia, the correlation of the endocrine glands must be borne in mind, and the extracts of the antagonists utilized, the thyroid, the mammary gland or the pituitary. The organotherapy aims to restore physiologic correlation; this may require its continued administration, or a small amount of the hormone may stimulate the whole endocrine system to harmonious functioning.

Norsk Magazin for Lægevidenskaben, Christiania

December, 1921, **83**, No. 12

*Rheumatismal Myocarditis. P. F. Holst.—p. 833.
*Pathologic Condition in Patella. Sinding-Larsen.—p. 856.
*Acute Dilatation of the Stomach. S. F. Holst.—p. 859.
*Causes of Heart Disease. T. Ormhaug.—p. 868.
*Dyspnea. N. B. Koppang.—p. 876.

Rheumatismal Myocarditis.—Holst comments on the tendency to become chronic of myocarditis developing in connection with acute rheumatism. Its special anatomic features throw light on myocarditis in general and on the pathogenesis of acute febrile rheumatism. The rheumatismal submiliary nodules found with this myocarditis are never encountered unless there has been preceding febrile rheumatism. No micro-organisms have ever been found in these nodules, and the nodules were found in only four of seven hearts in this category, but in two others there were findings that might have been traces of old nodules. He suggests the possibility that these nodules may be specific to acute rheumatism like the tubercle in tuberculosis. Also that they may be nests where the virus of acute rheumatism hibernates, as it were, and brings on a new attack when roused. The disease seems to be a chronic infection rather than a recurring acute disease, the attacks merely the flaring up of the latent process. Treatment, therefore, should be managed more as we manage syphilis, giving periodical courses of the specific salicylic medication without waiting for an acute attack to develop. Rheumatismal myocarditis may develop without any clinical manifestations, but there are usually symptoms of pancarditis. Dilatation may soon follow, especially in the young, and it may vary from day to day. Symptoms of mitral insufficiency, enlargement of the liver and tachycardia were the rule, but there was no marked arrhythmia, possibly because the patients were not examined often enough or with methods of precision. His verdict on digitalis in rheumatismal myocarditis is rather unfavorable.

Hitherto Undescribed Pathologic Condition in the Patella.—Two otherwise healthy girls of 10 and 11 complained of pain in one knee after jumping or dancing lessons. The roentgen shadows were abnormal, suggesting periostitis from overstrain, and the tibia in one of the girls showed Schlatter's disease. Although the pain was felt only in one knee, roentgenoscopy showed a similar abnormal condition in both patellae. One child was ordered to keep still, and the other had a plaster cast applied for six weeks. By the end of six months, roentgenoscopy showed conditions apparently quite normal. Roentgenograms of both cases are reproduced.

Acute Dilatation of the Stomach with Arteriomesenteric Occlusion.—In one of the three fatal cases described, the patient was a newly born babe; the others were men much debilitated by suppurative processes.

Causes of Heart Disease.—Ormhaug found a history of acute articular rheumatism in 44.1 per cent. of 288 men and in 57.6 per cent. of 289 women, all with the clinical picture of heart disease. Also in 20.4 per cent. of 250 male and 31.2 per cent. of 237 female cadavers after death from heart disease, and in 32.7 per cent. of 150 male and 42.7 per cent. of 164 female cadavers after death from known valvular defect. He tabulates the total 1,064 classified by the 25 different diseases confirmed by necropsy. Syphilis in the three groups seemed responsible for 12.2 per cent. (men) and 4.2 per cent. (women); 17.6 and 7.6 per cent., and 20.7 and 8.5 per cent. The mitral valve was involved in 210; the tricuspid in 6, and the pulmonary in 2 in the 314 valvular defect cases.

Dyspnea.—Koppang explains how the different types of dyspnea give the clue to treatment, the dyspnea being dependent not only on the metabolism in the special respiration center but on the metabolism in other more remote organs.

Ugeskrift for Læger, Copenhagen

Nov. 10, 1921, **83**, No. 45

*The Cause of the Exudative Diathesis. S. Monrad.—p. 1461.

The Exudative Diathesis.—Monrad prefers to call it the exudative-lymphatic diathesis. He encountered it in 4.5 per cent. of 2,772 hospital patients, and in 6.9 per cent. of 2,934 private patients, 1917-1920. Only 14 of the total 327 children were over 10, confirming that the children outgrow the tendency. It is familial, hereditary and congenital. The skin and mucosa symptoms disappear first; the asthma and hypertrophy of the tonsils may persist for years. The prognosis is good except for the danger of sudden death in the eczema stage and the so-called thymic death. He had a case of the latter, a male infant of 18 months dying suddenly a day or two after herniotomy, and necropsy disclosing nothing abnormal beyond the hyperplasia of the thymus, spleen and intestinal follicles. When an endemic acute infection develops in the hospital, the children of this exudative type are sure to contract it. His research and extensive experience indicate that excluding animal fat from the food hastens the throwing off of the condition, and the children thrive and grow robust. He therefore incriminates animal fat as the factor responsible for the exudative-lymphatic diathesis. The animal fat in some seems to behave like an actual poison. Treatment therefore should aim to exclude cream, butter and animal fat of all kinds, including cod liver oil, while vegetable fats can be freely allowed. The animal fats must be avoided for six months even after apparent recovery, or the symptoms may return. Under the dietetic treatment, adenoid vegetations are liable to subside with the other symptoms of the diathesis. In 68 of the children, operations on adenoids (55) and on the tonsils (13) were not followed by the least improvement. Only when the dietetic treatment was kept up perseveringly was benefit realized.